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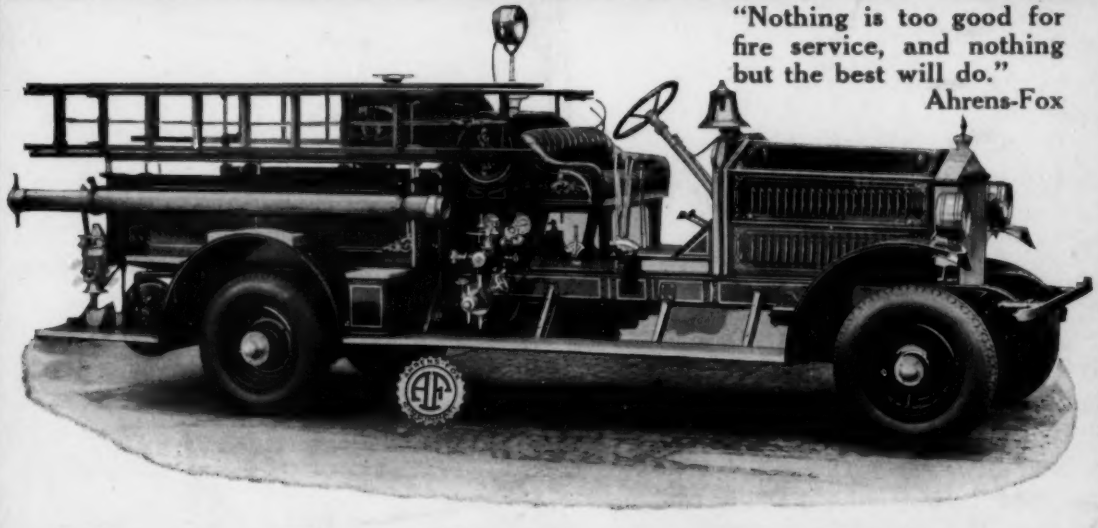
The Journal of the Fire Protection Profession

JANUARY 23, 1929



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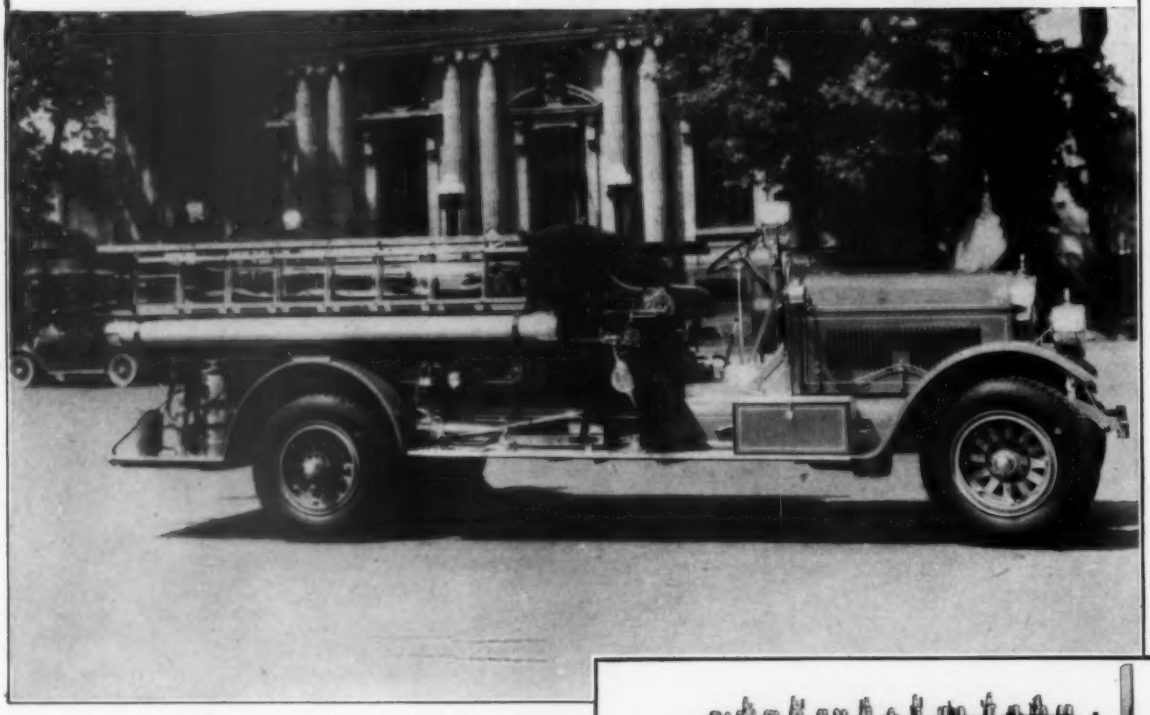

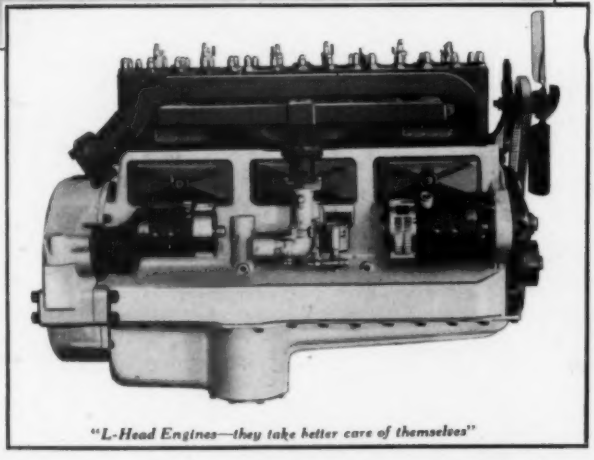

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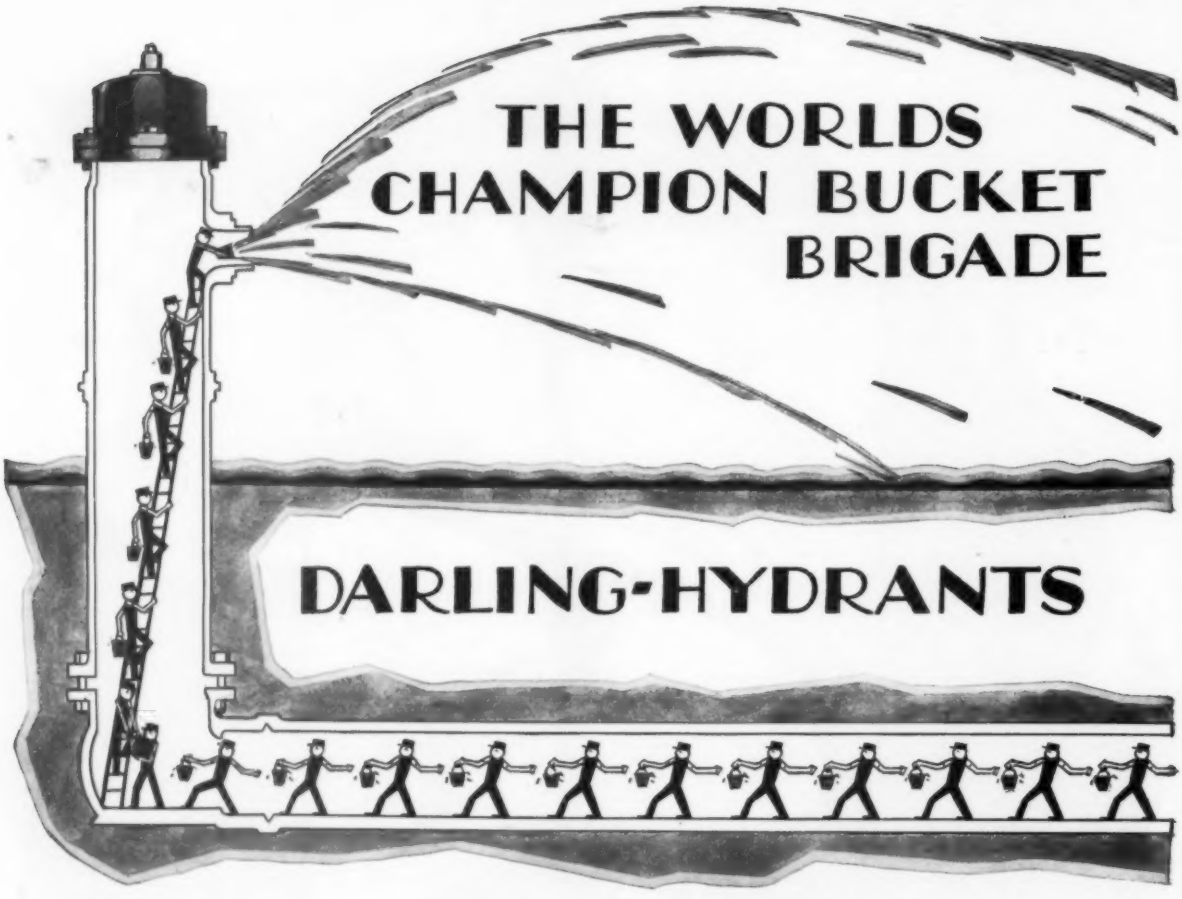

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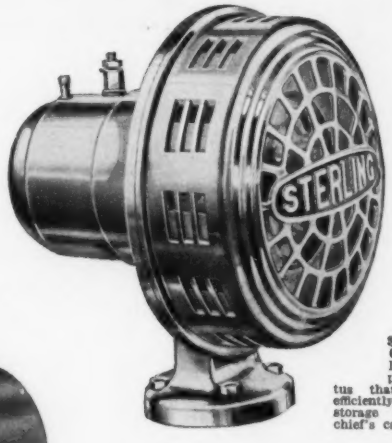

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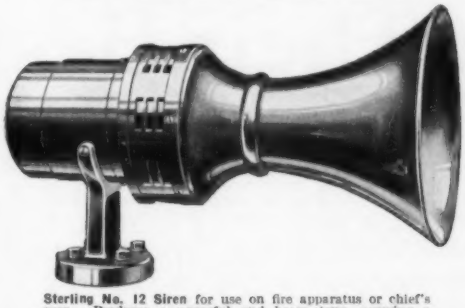

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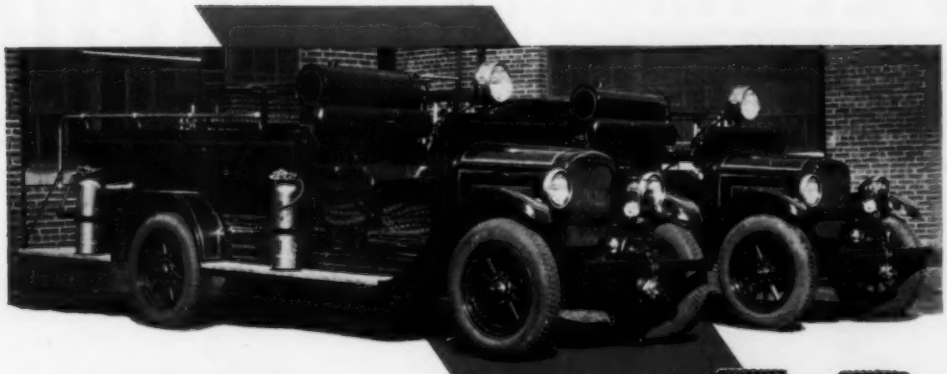

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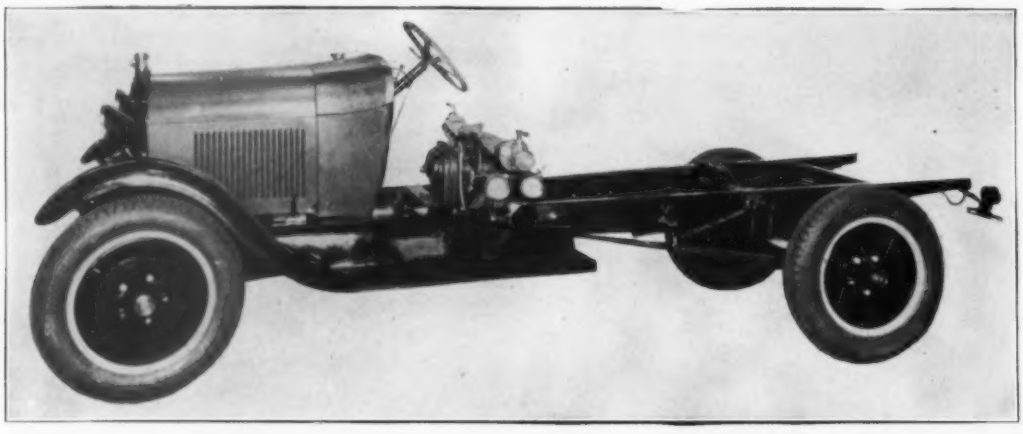

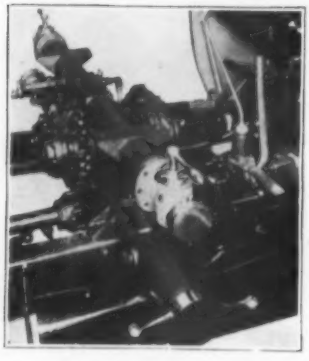

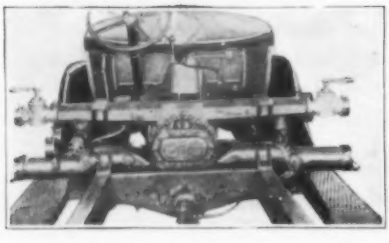

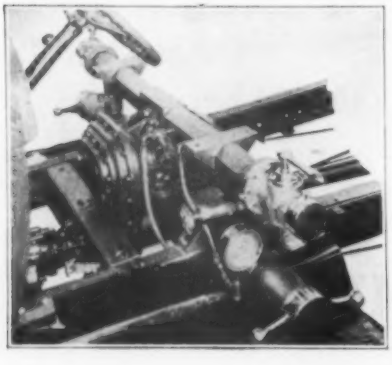

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152	202 lbs.	1710	623
103	255 lbs.	1290	470

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The Journal of the Fire Protection Profession

VOLUME LXXXI JANUARY 23, 1929 NUMBER 2

Standardize Your Hose Couplings!

How This Can Best Be Done—Great Progress of Work in Last Few Years—What Has Been Accomplished

NO real reform was ever accomplished without there first being a demand and a necessity for it. This is true of the remarkable work done in the standardization of fire hose couplings throughout the country. The following information, abstracted from the Bulletin issued by the Insurance Department of the Chamber of Commerce of the United States, shows graphically what has been achieved in this movement, and emphasizes the need that made this accomplishment possible:

A recent study of fires occurring in large cities of the United States discloses the interesting fact that one per cent of the total number of fires is responsible for sixty-six per cent of the total fire loss. Thus it is evident that primary consideration in community fire prevention effort should be directed toward those hazards or defects which might, under certain conditions, develop small fires into large ones and large fires into conflagrations. Fortunately, the United States has sustained relatively few mammoth conflagrations, although the potential danger of complete or partial destruction by fire is inherent to many American communities.

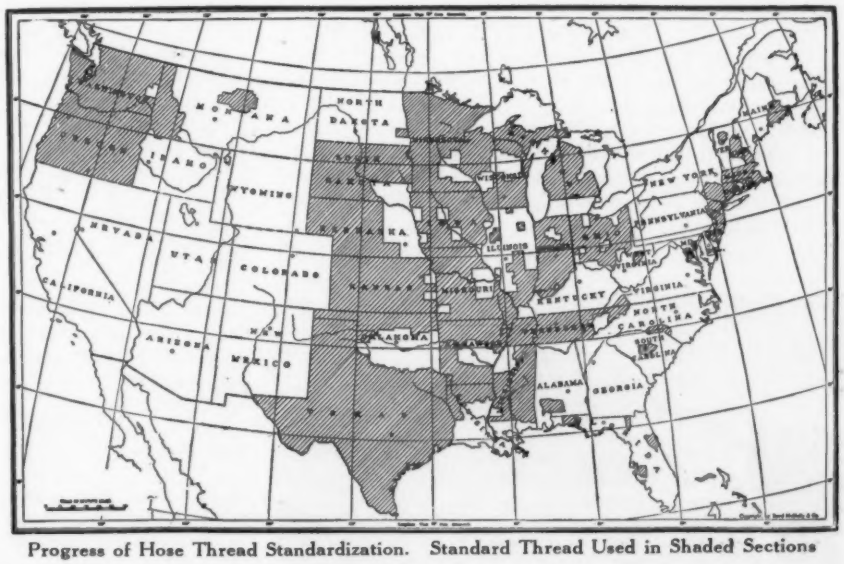
The conflagration hazard has been recognized in its true light by fire protection engineers and means have been devised by them to assist in preventing the rapid spread of fire throughout a community. It is not the purpose of this article to discuss the subject generally, but to point out one effective method involving little expense which would do much to insure the average American city the advantages of adequate fire protection in the event it is so unfortunate as to develop a fire of conflagration proportions.

Importance of Outside Assistance in Large Fires

The fire department of an urban community is very seldom of sufficient strength to cope successfully with a conflagration. As a result when such a large fire does occur, the first impulse of the fire department officials is to call for assistance from nearby cities. Such requests are always heeded and many record runs have been made by fire departments in answering summons for aid from cities threatened with destruction. Since motorized apparatus and paved highways are now in general use, the time necessary to make the run from one city to another has been greatly shortened and, consequently, outside assistance can be brought in within a comparatively short period of time.

Hazard of Non-Standard Hose Coupling Threads

Only too often, however, has this fine spirit of co-operation been nullified to a large extent because the outside apparatus has been unable to connect its fire hose couplings with the hydrants of the cities they come to save. With the development of municipal water systems, the installation of fire hydrants and the acquisition of pumpers by municipal fire departments each city seemed to have adopted a thread for its fire hose and hydrant couplings without regard to the thread used by other communities. Consequently, in the great Boston fire of 1872, the Baltimore conflagration of 1904 and the Augusta disaster of 1916, just to mention a few, the apparatus which responded from the outside to the



Progress of Hose Thread Standardization. Standard Thread Used in Shaded Sections

call for assistance was unable for the most part to be of any real service, due to the fact that the couplings used on its hose and engines could not be connected with the local hydrants. Being thus without a water supply, pumping units which might have saved hundreds of thousands of dollars worth of property, were forced to remain out of action while the fire swept on.

The experiences of the past have settled beyond all doubt that a city or town having fire hose threads which are not interchangeable with those of its neighbors, is in constant jeopardy of serious losses in life and property values by fire. This has been recognized in some quarters for more than half a century as evidenced by the continued efforts which have been made to secure uniformity and standardization in fire hose threads.

Situation Prior to 1920

After the Boston fire of 1872 a thread somewhat coarser than the present National Standard was extensively adopted in Eastern Massachusetts. Other sections of the country, little realizing that they were dealing with a subject of country-wide importance, went at this problem independently. New York City selected a much smaller and finer thread which through more general use became a local standard in nearby New Jersey and New York State municipalities. Philadelphia, departing widely from the general practice, introduced a snap coupling which was afterwards brought into use by a number of cities and towns in that section of the country. Baltimore used a screw coupling of unusually large diameter and Washington the same as that in Eastern Massachusetts. The extreme West, following the precedent set by San Francisco, adopted an intermediate thread.

So it came about that not only in different sections of the country but in all the states and frequently in the same municipalities, there existed widely different and non-interchangeable threads. As a matter of fact today only five per cent of the cities and towns with non-standard equipment have a definite record of the thread which they are using. Two different sizes of threads are used in some cities while in one community four types are to be found.

Float Teaches Lesson of Proper Venting

In the Safety Parade held in Baton Rouge, La., the fire department won second prize for their float which is illustrated. It was designed and constructed by Victor Charles, left, and E. B. Doiron, right. The display was mounted on a piece of reserve apparatus. The float was intended to convey the danger that lies in improper venting of gas heaters. Both Chief R. A. Bogan and his department feel very proud at having won the silver loving cup, the award as second prize.

The only logical solution for correcting this inexcusable situation was arrived at nearly 25 years ago by the National Fire Protection Association through its Committee on Hose Couplings and Hydrant Fittings, of which the late F. M. Griswold, Chief Inspector of the Home Insurance Company, was for ten years chairman. The coordination of efforts on the part of national fire fighting, water works, and fire protection associations, resulting in the adoption and widespread endorsement of the "National Standard Fire Hose Coupling Screw Thread," was largely due to Mr. Griswold, and the notable achievements in recent years are a fitting memorial to the valuable service he rendered.

The chaotic conditions so long existing in the field were not materially improved, however, until the work of carrying on this standardization movement was taken up by the National Board of Fire Underwriters through its Committee on Fire Prevention and Engineering Standards. This latter organization is rendering an invaluable service through its close affiliations with the water utilities, fire departments, underwriters' bureaus, state fire marshals, insurance departments, federal and local trade organizations, and national associations in securing a unity of action which is spreading the work of standardization to country-wide proportions.

National Standard Fire Hose Coupling Screw Thread

Early in 1924 sponsor organizations consisting of the American Society of Mechanical Engineers, the American Water Works Association, and the National Board of Fire Underwriters presented to the American Standards Association for adoption a standard setting up the manufacturing and inspection limits of coupling screw threads and developing a complete set of gage dimensions and tolerances. This standard had been prepared with the active cooperation of the National Screw Thread Commission, and received the approval of the American Standards Association in May, 1924. It is now known as "National (American) Standard Fire Hose Coupling Screw Thread." This is an amplification of the standard adopted in 1907 by the National Fire Protection Association and subsequently by all the leading organizations interested. Pamphlets procurable from the American Society of Mechanical Engineers, 29 West 39th Street, New York City, and the National Screw Thread Commission, U. S. Bureau of Standards, Washington, D. C., give the thread characteristics and limiting dimensions, with cuts of the threads and inspection gages, all in strict accordance with the best manufacturing practice.

Progress in Standardization

It was not until 1920, when through the initiative of the National Board of Fire Underwriters, Michigan and New Jersey first undertook to eliminate misfits in fire hose threads, that the correction of the existing field conditions may be said to have gotten under effective headway. With the continued assistance and helpful influence of sectional and state underwriting organizations, national associations, fire chiefs, state fire marshals and state fire commissioners, railroads, and other interests, this movement has since continued to attain increased headway.

At present thirty-five states are enrolled in this work of standardization. In the United States about 8,000 cities and towns have fire protection in the form of hydrants and fire hose. Of these over one-half now use the National (American) Standard Thread and of the remainder seven-eighths have threads that can be readily altered so as to be interchangeable with the standard.

(*Continued on page* 70)

Is Salvage Work Justified?

No Fire Department Duty Better Appreciated by Public—Use of Covers in Preventing Water Damage

By CHIEF D. W. BROSNAN, Fire Department, Albany, Ga.

MUNICIPAL salvage is directly in line with the policy of fire extinguishment with the least possible damage that is the very foundation of the American system of best and most approved methods of modern fire fighting. The following paper treats the subject in an interesting and instructive way:

Chief D. W. Brosnan
Albany, Ga.

Time was when the one activity, or major duty of the fire department, was the extinguishment of fires. Firemen sat around the engine houses awaiting an alarm, and then attempting to extinguish the fire as best they could, in many cases using large quantities of water that did more property damage than the actual fire itself.

Today, the fire department has three major functions. The first of these is fire prevention, which if properly applied, covers public safety in all of its ramifications.

Second, extinguishment. Intelligent extinguishment, with an eye single at all times to conservation of the loss.

Third, salvage of property, during and after the fire. Firemen must be taught to use their brains, and to conserve instead of to destroy property while in process of extinguishment. Firemen can be schooled to preserve things of high value at the sacrifice of things of lesser value, for at times it is necessary to destroy property in order that other property of greater value may be conserved.

Intelligent Use of Ventilation at Fires

Modern day fire officials have learned to ventilate buildings to rid them of smoke and to uncover the fire instead of throwing water indiscriminately into the smoke, for in a great many instances, the water never reaches the fire at all and causes much unnecessary damage. A small fire sometimes gives off a large amount of smoke, so it is good practice to avoid the use of water until the building has been ventilated, the fire uncovered, and the lines advanced to operate on the same. Streams should be operated from the inside of a building and directly on the fire wherever it is possible to do so.

Very often we see doors and windows smashed where there is no need for it, and the needless destruction of stocks and furnishings is responsible for a good part of the loss.

Ofttimes it is necessary to ventilate buildings, so firemen should be trained to do this work in such a way as will cause the least amount of property damage. One large opening in a roof will in most cases ventilate the building and cause much less damage than the indiscriminate punching of holes all over the roof and practically ruining it. It is good practice to spread a trapulin cover on the floor to catch the debris when it is necessary to pull down ceilings or side walls. These covers can later be removed from the premises together with their contents of debris with a resultant reduction of loss to finished floors and rugs. It is also good practice to cover the furnishings to prevent damage from dust and dirt.

Larger Streams Cause Heavier Damage

Practically all fire departments are today using larger streams of water under higher pressure than formerly. This is especially true in the high value districts, and of course will cause a much larger water damage unless provision is made to protect the property that is not jeopardized by fire from being deluged with water and ruined.

It is the general consensus of opinion that twenty-five percent of the annual fire loss is consumed by fire, and the remaining seventy-five percent is caused by water, methods of extinguishment, and other causes after fires.

It is the duty of the fire department to stop the loss, whether it be by fire, water, or other causes, and so it is up to the fire department to perform salvage work.

With an annual fire loss of half a billion dollars, three-fourths of which is caused by other agencies then fire, you can see the need and opportunity for salvage

"I DO not believe there is any duty performed by the fire department that the general public appreciates more than salvage. Citizens are quick to recognize your effort to conserve their property, and their appreciation gains for your department their cooperation and support."

work and realize what it will mean towards reducing our annual fire waste.

Advantages of Municipally Performed Salvage

In times past it was the policy of the National Board of Fire Underwriters to establish salvage corps, for the protection of property damage other then by fire in the larger cities. This custom has been discontinued, and wisely so, in our humble opinion, for all of this work should be cared for by the municipalities and operated under one head and direction.

Many of the larger cities have installed municipally owned and operated salvage companies, but the majority of the fire departments carry their covers and other salvage equipment on hook and ladder trucks, though it is good practice to carry a few covers on each mobile piece of apparatus. Then you always have a cover at hand when you need it.

Arguments in Favor of Municipal Salvage

Some of my fellow chiefs complain that their cities will not provide them with covers. This of course is due to ignorance on the part of the city officials and it is up to the chief to explain the need and sell salvage to his Board. Once he explains to these officials how the loss can be reduced, he will have no trouble in getting what he wants to work with. To these cities I say: Buy one cover, use it, and when you demonstrate the fact that you can salvage the contents of a room and probably save a thousand dollars loss with the one cover, it will not be long before other covers will be provided you.

Other chiefs state that they have not sufficient man power for salvage work. We have found that a detail of two men from each ladder truck can cover down thousands of dollars worth of merchandise, machinery, or house furnishings in a surprisingly short time. Speed is most essential in spreading the covers, but is is surprising how rapidly the covers can be spread after a little practice with them.

I venture the assertion that no fire department will abandon salvage work after giving it a fair trial, for the resultant reduction of loss will immediately sell the work to the most skeptical.

We find that our men become more interested in and take a pride in this work as they become more proficient. The public appreciates the department's effort to conserve their property, and are quick to applaud intelligent effort.

Small Hose Saves Property Damage

Immediately on arrival at the scene of a fire the officer in command should locate as near as possible the seat of the fire and its extent. He should determine just how he will proceed with extinguishment and this will include the amount of water that it will be necessary to use. We use one and one-half inch hose with three-eighths inch tips with good results on medium size inside fires, and in this way we prevent a great amount of water damage. Our orders are to advance the covers at the same time the hose lines are advanced. Covers should be spread on the floor directly beneath the fire, and if the amount of water is not too great, the covers can be spread to catch and hold the water on that floor. Covers can be built up at the edges to form catch-alls that will hold the water until you can bail it out. In some of the larger cities siphons are used to convey this water from the building, but this method would be hard of accomplishment unless you had a regular patrol to do nothing but salvage. Where the roof of a building is entirely burned off, catch-alls are valuable in preventing water damage to the building and its contents from rain.

In covering shelves containing merchandise, we pass the covers over the top of the shelves, fasten them in place, and let them extend down completely over the face of shelving. If there are card-board boxes of merchandise on the floor, we remove same to counters or tables if possible before covering. If you are attempting to hold the water on any given floor, care should be taken to arrange the covers over tables and shelving so as to drain into the catch-alls.

Typical Salvage Equipment and Operation

In addition to the covers, our salvage equipment consists as follows: portable electric lights, buckets, mops, brooms, squeeges, sponges, chamois, auger, roofing paper, and nails. After the fire is subdued, the real work of conserving the loss commences. All water should be removed from floors to prevent buckling, furniture and fixtures should be wiped up. If working in a sprinklered building, all fused heads should be replaced and the sprinkler system put back into commission as promptly as possible. If the weather is clear, we open all windows, and if the electric circuits are in good condition on the floor on which we are operating, we start up the fans, for it is most essential that dampness be dried out as promptly as possible. The stock should be overhauled if necessary and the premises tidied up.

Roofs Should be Made Watertight After Fire

It is most important that roofs be made watertight after a fire, and this is again the duty of the fire department; for there would be no common sense in protecting the contents of a building from damage by water used in extinguishment and then

(*Continued on page 72*)

Chicago Fire Department Engineer Designs Switchboard

This new multiple switchboard has just been installed at Fire Alarm Headquarters, City Hall, Chicago, Illinois. It was designed and built to operate in a new fire alarm system being planned for Chicago. A novel feature of this switchboard is a "monitor" section which automatically records at headquarters the apparatus leaving the stations on a run to a fire and just how long it took the company to get out of quarters. It also acts as a check to the operators at headquarters that the alarm has been received and all apparatus on the way. The board was designed by N. Banks Cregier, Supervising Engineer, Chicago Fire Department, and built by the Kellogg Switchboard & Supply Company, Chicago.

What Should Modern Rules Include?

Great Variety of Rules Applying to the Rank of Captain—Seventh of a Series of Articles on This Subject

AS compared with the rules applying to chief, assistant chief and battalion chief described in the first three articles of this series, the regulations pertaining to captain are indeed numerous. Two hundred and thirty-six different rules are found for this rank in the 41 reports analyzed. The following is a continuation of this analysis from last issue:

The rules which follow have been found listed in but one city each:

Minneapolis, Minn.

"In all stations of this department where two or more companies are housed, the senior captain shall make all requisitions for supplies, shall have full charge of supplies, as to their care and distribution and will be held strictly responsible for their proper use. He will report to the chief engineer any improper use or waste thereof."

"Shall have power, under emergency circumstances, such as willful refusal to obey orders or where the interests of the department would suffer by his remaining on active duty, to suspend from duty any member of their companies and prefer charges in a manner and form as hereinafter prescribed in these rules, submitting the same without delay to the deputy or battalion chief engineer of his district."

"It shall be their duty to make out and forward to the chief engineer, a full and complete quarterly statement of hose in their charge, giving condition, brand, etc., on a form prescribed for the purpose and certify to its correctness."

"They shall, on being assigned to the command of a company to relieve its commanding officer, make a careful examination of all public property in charge of said officer, and only give a receipt for what is actually shown or satisfactorily accounted for, as they will be held strictly accountable for all property they may receipt for."

"The word 'senior' in this connection shall be construed to apply to the captain who has served the greater number of years as a captain. He shall assume command at fires when first to arrive and exercise command and control until a superior officer assumes command."

"Shall report all hoist-ways open after business hours or otherwise in violation of law or ordinance, and obtain the name and address of occupants and owners of the premises."

"They shall report in writing to the chief engineer, the name of, and the time when, any man may be assigned to duty in their respective companies whether by transfer from another company, by substitution, or by appointment, immediately after such assignment shall occur; and shall in like manner report any transfer, resignation or suspension, of any man belonging to the company, specifying the change of assignment in each case; also the change of residence of any member of their company."

Newark, N. J.

"In no case shall a detail exceed one (1) week."

"Upon the visit of director of public safety, fire commissioner and all superior officers to company quarters for the purpose of inspection, the commandant will have his men fall in line in single file. The captain shall take position to the right of the line and salute the inspecting officer."

"Captains shall serve as acting battalion chiefs, successively, according to the numerical order of their respective company, beginning with engine companies. Details of this character shall be made by the battalion chief of the district, who shall make report thereof to the deputy chief and the chief engineer."

Montgomery, Ala.

"At no time shall he allow more than one member of his company to be absent from the station (meal hours, days off, and cases of emergency excepted). He may, however, grant leave of absence to members of his company (with pay) for periods not exceeding one hour when in his judgment it is not detrimental to the department and not contrary to the first clause of this to do so. At no time will the captain with the company leave the station without permission from the chief or shall any officer leave his company or the station without first obtaining permission from the chief."

"He shall give instructions as to the use of equipment on apparatus at least once a week."

"He shall see that each and every man at station, or on city property, night or day, answers every call made by the company, whether off or on duty, and will be held responsible if rule is not strictly complied with."

"He shall see that each and every man hits the floor, and reports to the apparatus when fire alarm sounds whether his company rolls or not. He will report to the chief any violation of this rule."

Oklahoma City, Okla.

"They must not loan or permit to be loaned any tools or equipment belonging to the department to any individual or permit repairing or cleaning of privately owned automobiles in or about the station."

Providence, R. I.

"He shall be held strictly accountable for the condition of his uniform, and shall report to the chief of battalion such members of the company as are not properly uniformed or whose uniforms are not in good condition."

"He shall recommend in writing to the chief of battalion the changing of any member of the company from one platoon to the other whenever, in his opinion, such change would be to the best interests of the department."

"He shall keep an accurate record of all hydrants in his district and shall examine or cause them to be examined once each month, or oftener if necessary. Notice shall be taken of the condition of the spindle and of the thread on the top of the barrel, and the box and barrel must be kept free of rubbish. If the waste valve operates stiffly, it must be turned on and off several times until it loosens up."

"He shall inspect or cause to be inspected once each month all places within the company district where more than three automobiles, using gasoline for fuel, are kept or stored, also all places within said district where more than five gallons of naphtha, gasoline, benzine, or other similar product is kept or stored or where gasoline engines are operated, and a report enumerating all places thus inspected shall be made each month to the board of fire commissioners."

"In case of emergency, requisitions for such supplies and materials as may be absolutely necessary for the proper maintenance of the company may be made prior to the expiration of the prescribed period; such requisitions, however, shall be subject to all other provisions relative to requisitions for supplies."

"He shall be held responsible for the heating apparatus in the stations. When such heaters go out of use after the winter season, the tubes, smoke-arches, pipes, etc., must be thoroughly cleaned, the water drawn off, the boiler flushed and then refilled to a point considerably above the water level. A light fire sufficient to dry out any moisture that may have collected in the furnace and pipes shall be started on the first week day of each month."

"Any hydrant needing the attention of the Water Department must be reported through regular channels as soon as such condition is detected. If any hydrant be in any degree inaccessible by reason of building operations, street repairing or any other reason, such fact shall be promptly brought to the attention of the immediate superior officer."

"He shall make, or cause to be made, an examination of all public thoroughfares within the limits of the company district and shall report to the chief of battalion the result of all such examinations stating explicitly the location of all places where rubbish or other material of a combustible nature has been allowed to accumulate.

"He shall cause all orders for gasoline, coal, soda, acid and other emergency supplies of a like nature, together with immediate repairs to building to be telephoned to the office of chief of department not later than 10:00 a.m. on the day needed."

"He shall see that no fuses in excess of 15 amperes are not used in the electric lighting circuits and no others than those provided by the department. Periodical inspections of fuses

shall be made, and captains will be held responsible for any violation of this rule."

Pittsburgh, Pa.

"Officers shall set a good example for subordinates in respecting and obeying all orders, rules and regulations of the bureau. Neglect to comply with or enforce any of these or commit any other act of indifference that may tend to operate against or reflect discredit upon the bureau, will subject said officer to fine, reduction in rank or dismissal."

"Officers shall see that the fire alarm operators are notified when their company is leaving quarters on all still alarms, giving location of same (stills from operator excepted) and on return to quarters report to them when in service."

"Officers will not turn over their command to any relieving officer who is in an unfit condition for duty. In all such cases, they shall immediately call up their superior officer, notifying him of the facts. Any violation of this rule will merit drastic corrective measures by the trial court. When there is a doubt regarding a member being fit for duty, the officer or acting officer shall call the city physician assigned to his district, who will examine the member and render a report on his condition."

"All lights, except those in use at night in engine and toilet rooms, must be out at 10:00 p.m. Captains and acting officers must see that lights and gas are not unnecessarily used."

"Captains shall see that due care shall be used by their men when washing apparatus, using nothing but cold water. At night, when they have had a run and the apparatus needs it, they shall see that the rough dirt is washed from same. They shall see that all necessary work for putting the apparatus in service is done immediately on arrival at quarters, working on same up to changing time, if necessary. They shall not put their apparatus out of service unless conditions warrant same or are ordered to do so by the proper authority and then notify their battalion chief immediately. Captains must see that members driving apparatus do so in a careful and safe manner, as they, together with the driver, will be held responsible for any accident happening while they are riding on the apparatus. In all such cases of accident, both captain and driver will be brought before the trial court on charges for investigation."

St. Louis, Mo.

"They shall not allow any changing or trading of days off or joker watches in their companies, without the consent of the assistant chief commanding the district."

"Upon arrival at fires, shall immediately cause to be opened all sky-lights, scuttles, windows, etc., of buildings filled with smoke."

"Shall instruct their men to bring the necessary tools from truck: Axes, pike poles, hose hoists, etc., and if not needed place in some convenient locality."

"Shall not permit political or religious discussions around company quarters."

San Francisco, Calif.

"In the meal book shall be entered the correct time, when members leave for and return from meals; all members before leaving quarters, and when returning to quarters from meals, shall report to the officer in charge of the company, who shall then make entry of the same in the meal book.

"In the supply book shall be kept an accurate memorandum of all perishable supplies received, such as forage, fuel, etc., the date of receipt, the name of the party from whom received, and the quality of such supplies. A receipt shall be given in every case for supplies received, and a written statement thereof forwarded to the Board of Fire Commissioners monthly."

"They shall make such disposition of the men under their command as will enable them to attend their respective places of worship every Sunday if possible, but at least once on every alternate Sunday, or other day of the week which the man or men are accustomed to recognize as the day of public worship. Such 'offs' shall be so arranged as not to impair the service, and members availing themselves of this privilege will be required to attend such places of worship in uniform."

"They shall see that the wheels are taken off the different pieces of apparatus and vehicles that may be under their charge and control at least once in every week, and that the axles and wheel boxes are carefully inspected, and the condition thereof noted in the house journal of that day."

"The captain of each company shall keep four books to be designated as follows: (a) The property book, (b) the supply book,—these two may be combined in one, (c) the journal, (d) the meal book."

"In the property book shall be entered a complete list of all the property in the company house under his control, furniture, horses, apparatus, hose, tools, etc., as it is received by him from time to time, and such as may become useless or destroyed, or that may be returned to the corporation yards, stables, shops, or the persons or firms from whom purchased. On Dec. 31st of each year the captain shall report in full in writing to the commission all the property in his charge belonging to the department."

"They shall also keep a scrap-book, in which shall be pasted copies of all amendments to the rules and regulations of the department, and all general and special orders and instructions issued by the board of fire commissioners and the chief engineer. Said scrap-book should be kept so as to be of ready access to all the members of companies, so they can familiarize themselves with the same. All general orders received at company quarters shall be read to the members by the commanding officer of the company, and then placed on file provided for that purpose. All general orders of the Board of Fire Commissioners that may hereafter be issued, relative to the discipline of the Department, shall be recognized as a portion of these Rules and Regulations."

"They shall at the end of each day sever the tape connected with the register in their respective houses on which alarms of fire are registered, thoroughly familiarize themselves with each box registered thereon, and then safely keep and store the same away in some convenient place for at least a week. Whenever there is anything wrong with the taper gong or register, or anything in connection therewith, they shall immediately report the same to the Fire Alarm Office."

"Captains or Acting Captains, when reporting in service shall pay particular attention to the signal that is struck on the gongs, and if a mistake is made in striking the signal they shall at once notify the fire alarm office to correct it."

"They shall, in all cases, where a ladder is put on a cement sidewalk, stone pavement or any other hard substance that will not allow the spikes to sink in, station a man at the foot of the ladder to brace it and prevent it from slipping."

"They shall see that all burned out or damaged tungsten electric globes are returned to the Corporation Yard with a report accompanying the same, stating how long the lamps were in use or how they were damaged. When new globes are installed they shall write in ink on the paster on the globes the date of each installation."

(To be continued)

Hope to Choke Oil Well Fire With Balls

Small balls will be injected into the casing of an oil well at Santa Fe Springs, Cal., that has been on fire for some time and which defies extinguishment. The balls will be shoved through an opening of an air-tight drill from the chamber which has been constructed around casing sixty feet below the surface. Cement and mud will follow the balls from the chamber. It is hoped that this will block the passageway that the oil and gas are now following. In the foreground can be seen the hundreds of sacks of cement to be used in an effort to control the blaze.

Signal Siren Introduced by Gamewell

Volunteer fire departments will be interested in the Codewell, a siren that sounds a code for town locations, and which can be used in three different ways. It can be automatically operated from a street signal station by means of a transmitter located at the fire station or telephone exchange, and manually by pressing the test button on the control unit.

In the second method, the transmitter is located in the fire station. When an alarm is received, a code wheel numbered to designate a particular section is placed on the transmitter, and the signal announced through the Codewell. The signals are short and sharp and are arranged so as to eliminate possible confusion.

WITH THE EDITOR

Traffic and the Fire Department

Much thought is being given at the present time by men prominent in civic and business affairs to the traffic problem. This is quite natural, as it is becoming one of the most acute that has to be dealt with by the governments of cities, both large and small.

An important side angle of the problem is the relation between the traffic situation and the fire department. It is becoming more and more difficult, with the mass of moving vehicles ever on the increase, to give the fire engines right of way and the clear passage which they should have to reach their destination in the shortest possible time.

From time to time, suggestions are made looking to the elimination of parking of automobiles in the public street; the removal of obstructions from streets and sidewalks; of the storing of goods in public—particularly the placing of building materials, etc., in the streets by contractors, and the dumping of goods in transit on sidewalks by truckmen; the limitation of the tearing up of the streets for small repairs, and when absolutely necessary, the performing of such work at night, or where a long job, the working of the men night and day until accomplished, and so on.

All such plans are helpful, to a certain degree, in reducing the congestion in the streets, and insofar serve to relieve the situation where the fire department is concerned. What the eventual remedy will be it is yet hard to say. Certainly the situation is by no means improving, with the constant increase in the use of motor vehicles. No doubt in the end American ingenuity and inventive genius will come to the fore with some undreamed of plan that will provide the answer to the problem.

Penny-wise Forest Fire Economy

An expert on forestation, writing in a periodical devoted to forests and forest life, severely criticizes the national legislators in their niggardly appropriations to provide funds for precautions against fire in these valuable preserves of the nation. According to this individual only about one-twentieth of the equipment that is absolutely needed to properly protect the national forests is provided. While hundreds of millions are spent on the forests of the country, the policy seems to be to set aside only a small sum—far too small to be of any practical use—for protecting them from fire.

This authority stresses the necessity for the providing of an ample number of lookout towers throughout the forest areas, and the providing of the best of telephonic communication between such points. Enough men should be provided to insure careful supervision during the season when forest fires are prevalent, to handle such fires when they occur and to prevent their spread. In order to accomplish this, proper tools in ample quantities should be provided, and the forest trails and roads should be kept in such condition that rapid communication between danger points can be established, and that reserves can be rushed to the places where urgently needed without unnecessary delay.

This expert estimates that at least three million dollars per annum would be the cost to maintain such a protective service, but, on the other hand, the huge sum lost annually from unnecessary fires beggars this sum entirely. He says in this respect: "For want of $3,000,000 in fire protection equipment many times that amount of timber or other values may go up in smoke during any year of bad fires. In 1910, one of the worst fire years, the loss in national forest timber reached the staggering sum of nearly $15,000,000. In both 1919 and 1926, also abnormal fire years, public timber considerably in excess of $3,000,000 was destroyed by fire."

It must be remembered that the figures of timber destroyed from forest fires, does not begin to represent the actual loss. Far from it! For, beyond the value of the wood burned, there is the killing of the young growth, which will retard the development of the forests for many years; the increase in the danger of floods from the denuding the land of its tree growth; the hazard of soil erosion, which is often an accompaniment of such large fires, and the drying up of the head-waters of streams from too great exposure to the heat of the sun.

Such a penurious policy as this will surely result in heavy expenditures in the end, and as far as economy is concerned, is absolutely short-sighted. A reasonable expenditure of money in fire protection, based upon the estimates of experts, and with no attempt at false economy, is the only safe and sane policy to pursue in the protection of our forests from fire.

Clean Chimneys and Fire Prevention

One of the troublesome duties that the fire department is often called upon to perform, especially if the company is located in a residential district, is the extinguishing of chimney fires. These almost invariably result from dirty chimneys.

It is here that the Chief or his Fire Prevention Bureau can do an excellent work. There are several mediums through which this can be done. Addresses before civic associations, Kiwanis, Rotary or other clubs, Chambers

of Commerce, and so on, can stress the necessity for the clean chimneys. The daily or weekly press is an excellent medium to spread this gospel of cleanliness. Circularization of the householders through the mails or by hand distribution is another method. And lastly, the inspecting firemen, on their visits, can easily suggest to the citizen that an occasional examination of his flues will do much to lessen the labors of the Fire Department, and at the same time save him from annoyance and possible serious property loss.

It can be pointed out to the property holder that a little trouble in this respect once or twice a season will repay him manyfold in the safety from fire danger that it will accomplish. Naturally, the average man, and especially the housewife, shrinks from the dust and dirt that arises when the chimney cleaning is performed. But even this is better than the resulting fire which is apt to result from the neglect of this cleaning. And, as a matter of fact, both can be avoided by the sprinkling of a little chimney cleaning compound upon the redhot coals of the furnace or range, which will perform the cleaning operation without any of this "fuss" and dirt.

Publicity and propaganda of this kind will relieve the Fire Department of one of its most annoying problems, and at the same time make it a benefactor to the householders whom it is in duty bound to guard the perils from a fire.

Percy Hoyt, Well Known in Fire Circles, Dead

Death came to Percy Scott Hoyt, aged sixty-eight, after a lingering heart trouble that required continuous medical attendance the last few weeks prior to his death.

The Late Percy S. Hoyt

He was a picturesque Wyoming personage, and a benefactor of the Cheyenne Fire Department. Hoyt was a prominent New York clubman and being fond of the outdoors, he was attracted to Wyoming as early as 1882. He purchased a ranch that was used to raise polo ponies. Fire-fighting was his hobby. In recognition of his interest in the fire department he was appointed chief for one year. While chief he purchased much of the city's fire apparatus and started the practice of having the firemen wear uniforms.

For years it was his enjoyment to take a party of guests to the International Association of Fire Chiefs' conventions in his private car. Chief Healy of Denver was always a member of this party.

He is survived by a sister living in England, and a brother and sister living in New York. He was a member of the Elks, one of the oldest members of the Union Club, a member of the Masonic Order, the Yacht Club and the Athletic Club of New York.

Mr. Hoyt, among other honors, was vice-president of the International Association of Fire Chiefs and the Pacific Coast Fire Chiefs' Association.

He was a grandson of the late General Winfield Scott, known for his part in subduing the Mexican trouble in the year 1846. Mr. Hoyt was given his middle name, Scott, in honor of his grandfather.

Funeral services were held in Trinity Church, New York city. The honorary escort of the New York Fire Department at the services consisted of Deputy Chiefs John J. T. Waldron and William Clark and Battalion Chiefs R. J. Comiskey and Matthew Fitzpatrick.

INDEX TO VOLUME LXXXI

The Index to Volume LXXXI, FIRE ENGINEERING, from the January 11 to the December 26, 1928, issues, is now off of the press, and will be mailed to readers on request.

Pickling Works Destroyed by Fire

The Empire State Pickling Co., covering an area of about two acres in Phelps, N. Y., was destroyed by a fire that lasted for about three hours. The works were located in a village of 1,400 population, having but poor fire protection.

Ruins of Empire State Pickling Co. Plant at Phelps, N. Y.

The blaze started at 1:50 a. m. When the fire department arrived in response to a telephone call, the fire was in the center of the building. The only private fire protection at the plant consisted of a number of small extinguishers. The alarm brought out one hundred firemen and three hose wagons quartered at a point a mile distant from the factory. Outside aid was called from Geneva and Newark.

The contents of the plant consisted of vats, machinery, stock of food products in process of pickling, labels, cans and so forth. The loss on contents and buildings was placed at $400,000.

Volunteers Replaced in Staten Island

The volunteer fire company at Great Kills, Staten Island, N. Y., was officially mustered out of service December 26. The volunteers protected the homes in that section for many years, and it was with a feeling of both regret and a conception that it was the result of the march of progress, that the men turned out to answer their last call.

Battalion Chief John Spencer, who had had an opportunity to work with the volunteers, was enthusiastic in the praise of the men.

Knoxville, Ia., Considers Volunteers—The Chamber of Commerce of Knoxville, Ia., has offered to advance the money for slickers, boots and hats for the volunteer firemen, until such time when the money can be raised by Knoxville.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Spontaneous Ignition and Oil Fires

To the Editor:

I shall appreciate your kindness if you will furnish me with brief answers to the following questions:

1. Are rags saturated with alcohol subject to spontaneous ignition?

2. How is it possible to determine whether or not a substance is subject to spontaneous ignition?

3. In an oil storage yard, assume a truck backfires in the vicinity of gasoline tanks, and the tanks ignite; (above ground tanks)

(A) What causes the tanks to ignite, whereas the tanks have steel tops or covers. What are the characteristics of burning gasoline?

(B) In the case of crude oil tanks having similar tops, how is it possible for the oil to take fire, and what causes "boiling over" even though the tanks have tops?

Very truly,

W. R. E.

Answer 1. Rags saturated with alcohol are not subject to spontaneous ignition. At least, there is no fire on record directly traceable to spontaneous ignition from alcohol.

2. About the only way to determine whether or not a substance is subject to spontaneous ignition is by laboratory analysis. We know that certain oils are very susceptible to such ignition, and it is safe to assume that carbonaceous materials impregnated with such oils will take fire spontaneously.

Many fires are credited to spontaneous ignition which should not fall in that classification. Hence the laboratory method is the only sure method of determining whether or not a substance will ignite spontaneously.

3. (A) If gasoline tanks take fire due to backfiring of an automobile, the tank is either overflowing, or else there is a leak somewhere in it. What actually takes fire is the gas from the stored gasoline. Fire may flash back great distances to the source from which the gas comes. There are on record a case where fire has flashed through gas in the atmosphere 200 feet to a leaky tank car of gasoline, setting fire to the car.

Early practice in tank construction allowed the use of flat, cone shaped wooden roofs. Such tanks are, relatively, very susceptible to fires, and fire in them is difficult to extinguish due to the early collapse of the roof, and the interference of the fallen woodwork with the action of foam extinguishers.

All steel tanks having, however, manholes, vents, gage wells, etc., form an improvement over the old wooden roof tanks, but the later type of so-called gas-tight are much more secure against fire. The loss by evaporation from large tanks of light gravity material, such as gasoline or naphtha, is very considerable, and this very evaporation provides a means for fire entering the tank, if the gas thrown off by evaporation takes fire. With the modern gas-tight tanks, from which vapors are drawn away to gasometers or fuel lines, the safety is increased. Even gas-tight tanks are not safe from fire, as the manhole covers are occasionally lifted, and the tank thus made available for fire entry.

Characteristics of burning gasoline are, when the gasoline gets heated up, agitation of the surface due to the release of gases, which burn vigorously. Intense heat is thrown off, and in the early stages of burning, heavy clouds of smoke are created.

(B) In the case of crude oil tanks, built similar to the ones described for gasoline, it is possible for fire to take place in the same manner as with gasoline due to the fact that crude oils contain a certain amount of volatile constituents, which are thrown off and which in gaseous form are highly inflammable.

In a large oil tank, fire will continue for many hours, giving off vast quantities of black smoke, and radiating great heat, making approach difficult. Provided the sides of the tank are not ruptured by an explosion, the progress of the fire is usually marked by a slow, progressive collapse of the sides. In crude oil fires, the later stages are marked by "boil-over" a sort of eruption caused by the violent ebullition of water remaining near the bottom. This occurrence adds greatly to the exposure of surrounding property.

Discharge Through Main

To the Editor:

Will you please tell me how to find the amount of water discharged in a pipe under the following conditions:

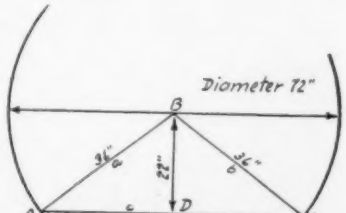
The velocity of water in the pipe is three feet a second. The pipe is 72 inches in diameter but the water does not entirely fill the pipe. Instead it only covers a depth of fourteen inches.

From this data, how can the problem be solved?

Yours truly,

B. F.

Answer: In order to find the discharge, it is first necessary to get the area of the shaded portion so that we can substitute the figures in the necessary formula.



Quantity of water discharged = area × velocity in feet per second.

To find the area of the shaded part it is necessary to find the area of the sector and then deduct the area of the triangle A B C.

Since the pipe has a 72" diameter, the radius is 36".

Therefore A B and A C are each 36 inches.

We must find the angle B.

First we must know the length of A C.

Draw a line from B so that it will divide A C into two equal parts so that two equal right angle triangles will be formed.

In the triangle D B C, $DC = (36)^2 - (22)^2 = 28.4$.

From mathematical laws we know that D C or 28.4 is the sine of angle B and that B D or 22 inches is the sine of angle C.

Then $\frac{28.4}{22} = \frac{\text{angle A}}{\text{angle B}}$ or angle $A = \frac{28.4\ A}{22} = 1.29B$

In any triangle the sum of all angles equal 180 degrees. D we know equals 90 degrees. Therefore

Angle A plus angle B = 90.

We have just found that angle A = 1.29 A or

B plus 1.29 B = 90 or 2.29 B = 90 or B = 39.2 degrees

angle of sector A B C = 2 B or 78.4 degrees.

The area of the complete circle is $.7854 \times 72 \times 72$ or 4060 sq. in.

A circle has 360 degrees.

The sector is $\frac{78}{360}$ of the circle; therefore the area = $\frac{78}{360} \times 4060 = 880$.

Area of triangle A B C = $\frac{1}{2} \times 22 \times 56.8 = 62.48$.

Area of chord or shaded part = 880 — 62.48 = 817.52 sq. in.

Reduce this to square feet $\frac{817.52}{144} = 5.66$ sq. ft.

Cubic feet of water discharged in one second = $5.66 \times 3 = 16.98$

or in one day = $16.98 \times 60 \times 60 \times 24 = 1{,}465{,}000$ cubic feet.

To find the discharge in gallons a day

$1{,}465{,}000 \times 7.48 = 10{,}980{,}000$ gallons a day.

Life of Pneumatic Tires

To the Editor:

Please advise how long pneumatic tires can be used with safety on a fire truck.

M. W. B.

Answer: We are indebted to the Development Department of the Firestone Tire & Rubber Company for the following data on the above subject.

"It is impossible to answer directly, as different conditions will vary the life of the tire as far as aging goes.

"Generally speaking, however, we feel that the life of a tire in this service should not be less than two years, with the present day tire, and may be much more than that. Of course, we appreciate that different makes of tires will show different aging qualities. Aging depends primarily upon the amount of heat and light that the rubber is subjected to. That is, if a tire is kept in a cool, dark place, the rubber will break down at a much slower rate. As far as the fabric is concerned, moisture is the most important thing in shortening its life.

"With a tire used in fire engine service, you may expect the rubber insulation between plies to break down first. With no insulation between the cords they will rapidly wear themselves out due to friction.

"All this is based, of course, on the idea that the tire has not been abused. It would seem that in this type of service there would be a likelihood of bruising the tire due to hitting obstacles on the road at high speed which would cause a premature failure."

New Firehouse Opened in Belmont, Mass.

A handsome new firehouse of brick construction, two stories in height with a four-story tower, was recently placed in service in the Harvard Lawn district of Belmont, Mass.

The building is situated on Fairview Avenue and will be occupied by Hose Company No. 2 with a Seagrave combination motor hose and chemical car.

Fire Station Placed in Service at Belmont, Mass.

H. Thaxter Underwood was the architect and Samuel Alcock was the builder. The apparatus room has walls of yellow brick with a dado of white brick. The floor is of concrete stained a deep red with drain to permit of washing the apparatus in the house. There are two brass sliding poles from the dormitory floor. Doors at the rear lead to the workshop and tower for drying hose. Glazed doors and four large circle top casement windows admit light to the apparatus floor. Near the house patrol desk are doors leading into the smoking room or lounge which is separated by a masonry wall. There is an open hearth and in the rear are the dining alcove, kitchenette, and toilet.

On the second floor there are bedrooms for the captain and the lieutenant and a six-bed company dormitory with five large windows. An office for the captain, a locker room, clothes dryer, wash room, toilet, and showers complete the second floor equipment.

There is an automatic door closing device for the apparatus floor. Steam coils are used in the tower to assist in drying hose.

At a reception and buffet supper held recently in the new house Chief William H. Hill entertained Chief James M. Casey, of Cambridge; Chief Daniel Tierney, of Arlington; Chief George L. Johnson, of Waltham; Chief John W. O'Hearn, of Watertown; Chief Frank Tracy, of Woburn; Supt. Henry Thompson, of the Boston Protective Department; and members of the Box 52 Association.

HARRY BELKNAP.

Albany, Ga., Lowers Fire Record

Chief D. W. Brosnan of Albany, Ga., winner of three national fire prevention contests conducted by the United States Chamber of Commerce, has just made public the fire loss records for 1928. The losses for the past year for Albany are even lower than any other period. The city has had fewer fires and less fire losses in 1928, and according to the annual report, the city believes that it has established a record that will stand for many years.

During the year just ended, Albany had only 91 fires and the total net loss was $4,520, representing a per capita loss of 23¼ cents and a property loss of 16/100 of one per cent of the value of property involved.

In 1924, Albany was awarded the grand trophy for cities of 20,000 or less, and in 1925 and 1926 the city won the grand award for all cities in the United States, irrespective of size. In 1927, Albany withdrew from the competition, although it bettered its former record that year. Again in 1928, the city did not compete.

Report Issued of Arson Work

Special agents of the Arson Bureau of the National Board of Fire Underwriters investigated 2,229 suspicious fires in the United States during the past year. In many cases, information was supplied by local authorities.

In March, 1928, an Arson Bureau was formed in New York City to care for the immediate territory. Of the fires investigated, 320 were in the vicinity of the Metropolitan area. The Bureau worked with Thomas P. Brophy, chief fire marshal of New York city. During the past term fires in apartment houses in course of construction and in lumber yards have caused the investigators the most work. Their work in this field has resulted in a marked cessation of suspicious fires.

Los Angeles Trains Watchmen

A course of six lessons has been arranged by Chief R. J. Scott of the Los Angeles Fire Department to train night watchmen to better safeguard the property from fire. The course started January 16 and all of the lessons are to be illustrated by slides, and in some instances, motion pictures. Upon completion of the course, the men who have received a satisfactory grade at the examination will receive some kind of a certificate.

The first lesson covers the transmission of alarms and the proper use of the telephone; lesson two, private fire alarm systems with special reference to the A. D. T., and other systems. Lesson three is to cover the handling of all types of fire extinguishers. Lesson four will treat the operation of sprinkler systems and private standpipes. Lesson five is to deal with the watchman's tour and duties, and some of the various hazards encountered. The last lesson of the series will cover methods of cooperation with the police department and how to preserve evidence in case of robbery.

S. H. Dodd, first assistant chief, is in charge of the Los Angeles Fire College.

N. Y. FIREMEN FORCED TO WATCH CHURCH SCAFFOLDING BLAZE

Fire Causes $1,000,000 Damage to Rockefeller Church in Course of Construction—Good Work Done in Preventing Spread to Apartments

By WM. JEROME DALY.

MYSTERY, or at least conjecture, still surrounds the origin of a fire which did damage, roughly estimated at $1,000,000, to the unfinished edifice of the Riverside Church, located on the east side of Riverside drive embracing half the block front from 121st to 122nd streets, and standing on a plot 100 x 265 feet. The church proper reached a height of 150 feet, while its towering structure stands 387 feet in the air, overlooking the majestic Hudson river, with the tomb of General Grant just off to the northwest, a block away.

Although $3,000,000 insurance was carried on the risk—$300,000 of that amount having been added the morning of day the fire occurred, the beautiful structure was protected at night by a lone watchman—a faithful man of 62 years, who had been in the employ of the building contractors, Marc Eidlitz & Son, for forty years. It was his duty to make his rounds every two hours. He said he could not do better than that, because he had to climb ten stories on each trip. The watchman says he discovered the fire.

At all events, the fire was discovered too late. When the first alarm was snapped in from the street box on the corner where the new church building stands, at 7.47 p. m., Friday, December 21st, the interior of the spacious building and its lofty tower were a seething mass of flames standing out like a beacon and illuminating the frost bitten facade of the Palisades across the river.

One of the most unaccountable features of the fire is why the flames were not seen by at least one of the hundreds of persons in multi-family apartment houses ten feet distant from the rear wall of the edifice. Immediately in the rear of the church is No. 99 Claremont avenue, a ten-story modern apartment house occupied entirely by students of the Union Theological Seminary. However, many were away for the Christmas holidays. Adjoining the apartments of the theologians is the two-story converted garage occupied as a restaurant or club, known as the "Shipwreck Inn." The latter structure stands between the quarters of the seminarians and another six-story apartment house on the corner of Claremont and 122nd street.

Patrons of the Shipwreck Inn seem to have given the alarm as quickly as anybody. Their first knowledge of the fire came to them when fragments of limestone, broken off by heat, came tumbling down and landed in the kitchen of the resort, sending the customers out in panic. The fire had burned so long before discovered that the wooden casings on most of the windows of the upper floors of the apartment houses were afire, and in some instances the fire had entered quite a few of the apartments. This occurred before the arrival of the first engine company, located about seven blocks away.

When Battalion Chief Frank Murphy of the 11th Battalion arrived with the first alarm companies, consisting of three engines and two trucks, he ordered a second and third alarm and "special-called" a water tower. The second alarm was sounded at 7.53, six minutes after the first. The third alarm was at 7:54 o'clock. Murphy told the writer (and neighbors supported the statement) that the fire was in control of the church and had gone up the tower of the edifice before the first alarm was pulled. This unusual speed may be accounted for by the fact that there were tons of wooden false work, scaffolding, all kinds of timbering, burlap wrappings and burlap bags, excelsior, and straw in empty crates that once held granite and marble in shipment. In the language of Chief Kenlon later on in the night—"the structure was a lumber yard within."

Chief Murphy, from the beginning, focused his attention on the apartment houses then threatened with destruction and containing the only life hazard. He was confident there was nobody in the church, because there had been two previous fires in the structure, one on October 9th at 5.50 p. m., on the eighth floor, among some building materials, and the other on December 14th at 6.19 p. m., on the thirteenth floor, among burlap and miscellaneous building materials.

The wooden platforms on the roofs of the apartment houses, used by domestics and servants for hanging washed cloths on lines, were ablaze from the embers. The wind was blowing plumb against the apartment houses. The velocity was thirty miles an hour and the temperature twenty-six degrees, according to the U. S. Weather Bureau. It was a mean night to fight a fire.

Having concentrated his forces on protecting the apartment houses, Battalion Chief Murphy went around to the front of the church on Riverside Drive and there was met by Deputy Chief Bernardo F. Carlock who responded on the second alarm and who when he arrived sounded a fourth alarm, registered at 8.07 p. m. This brought Chief Kenlon who ordered a fifth alarm at 8.22, giving him a total of twenty engine companies, six hook and ladder companies, one rescue company, one water tower, one search light, the department ambulance, the police emergency crew, and later on the coffee van. Fire Commissioner Dorman also responded.

Although the church was equipped, as required by law, with a workable standpipe line, no human being could enter to use it. Boards covered with burlap and used to block the windows as wind breakers might possibly have boxed in the fire and secreted it from view long enough to give it the unusual headway it had at the time it was ultimately discovered. There were no salamanders. The structure was heated by steam generated by an oil burning system in charge of a licensed steamfitter. Upon learning of the fire the mechanic shut down his burners, closed his oil fuel supply and made away for his life. The oil burning system is three stories below the ground level. There is no thought that the fire could have emanated from that cause. There were two electrically driven donkey engines used on hoistways for materials. These had some loose wiring and

Water Towers Were Useless in Fighting the Rockefeller Church Fire in New York City

were located in about the vicinity of where the watchman says he first saw the fire.

During the three hours in which the fire was burning briskly, large fragments of stone continued to tumble down, making the work of the firemen extra hazardous, especially for those operating wagon pipes close to the structure.

The water tower operated for about two hours, as best it could under the circumstances on Riverside drive. It would have been just as effective had it stayed at home. The wind was blowing too hard and thereby diverted the stream. To move the tower in any closer to the building would have been too dangerous for the men operating it.

The actual duty of the first due engine company was fourteen hours. It was midnight before the occupants of the apartment houses in the rear were permitted to re-enter their homes. While the fire was in progress, the Rev. Harry Emerson Fosdick, pastor of the Park Avenue Baptist church of which the Riverside church is an outgrowth, visited the scene and expressed profound regret, as did Mr. John D. Rockefeller, Jr., principal benefactor, whose wealth largely contributed has made the new edifice possible.

There were no labor troubles on the job which employed four hundred men, principally stone masons, tilers, plumbers, steam

fitters, electricians, bricklayers and ordinary laborers. The Fire Marshal's office and the Fire Underwriters are still investigating. The loss committee of the Underwriters is taking an extra-special interest in the fire, for it has blighted what up to that night had been a rather successful season in fire risks in New York City.

Between the time when the second and the third alarms were sounded, the fire alarm central station received eighteen telephone calls and eight other fire alarm boxes were pulled a total of fifteen times. Some of these street boxes were as far away from the fire as a half mile. This would seem to bear out the statement that the fire was observed quite suddenly by numerous persons from all points of the compass. Following the sounding of the third alarm four additional street boxes were pulled, but as in the case of the eight previous boxes pulled, none of them were transmitted—the fire alarm dispatchers again resorting to their customary and often uncanny sense of doping out that such signals were all for the same fire.

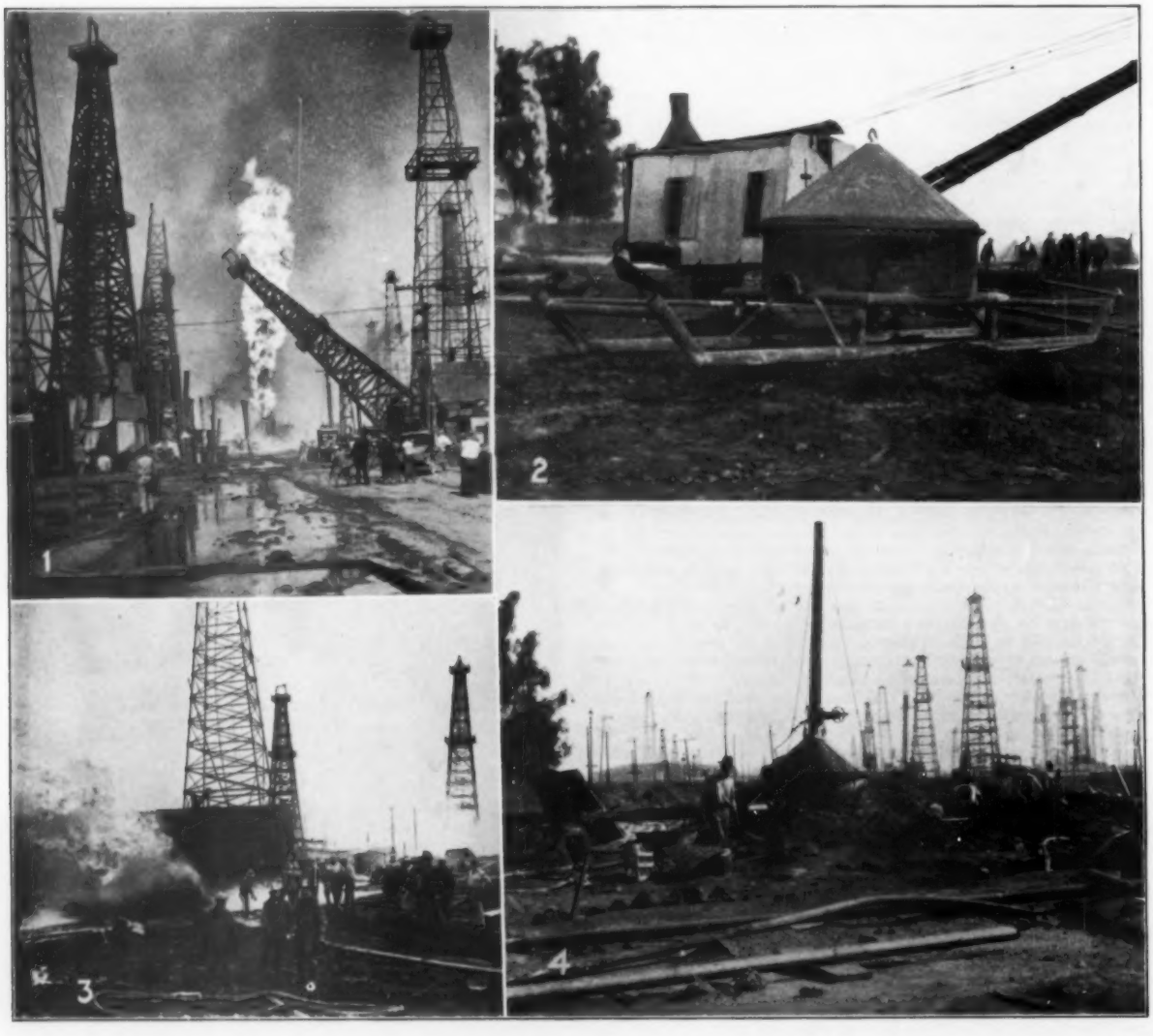
Sioux City Has New Pumper—The new 500-gallon pumper of Sioux City, Ia., has passed the customary tests.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending January 11

BALTIMORE, MD.—Bldg. owned by W. & J. Goldstein	65
AKRON, IOWA.—Several business establishments	40
DELTA, UTAH.—Delta High School bldg. destroyed	65
ST. JOSEPH, MO.—Bldg. at Mo. State Ins. Hospital	25
BELLFLOWER, ILL.—Post office and adj. property	40
MADERA, CALIF.—Plant of Valley Feed & Fuel Co.	30
MALAKOFF, TEX.—Stock of Hawn Lumber Co.	25
MONTREAL, QUE.—Stuart Bros. bldg. and adj. bldg.	80
HANOVER, N. H.—Delta Tau Delta fraternity house	35
MIZE, MISS.—Brock bldg. destroyed	40
MONROE, LA.—Crystal Theatre and adj. structures	50
MACON, GA.—Plant of Southern Crate & Veneer Co.	125



Means Finally Found to Extinguish Gas Well Fire That Had Been Burning in California for Two Months

Snuffing finally accomplished what two months of other methods failed to do. The gas from an oil gusher known as Getty No. 17 in the Santa Fe Springs oil section of California, started to burn two months ago. The various steps in the successful capping process are clearly shown in the photograph. The intensity of the gas fire can be clearly seen in Fig. 1. One derrick is about to fall, and the intense white heat of the flame is roaring skyward. A huge steel cap was made and so constructed that several hose lines charged with steam, mud and water could discharge inside the cap. The dome-like cap, in Fig. 2, was moved into position by a derrick and then dropped over the well opening. In Fig. 3 the cap is being brought into position. The derrick is just in back of the flames. Fig. 4 shows the successful culmination of the plan. The cap is in place and surrounded with dirt to make an air-tight job. Hose lines connected to the cap are at the left. A chimney-like arrangement coming from the top of the five-ton steel cap was used for a vent. This fire was the worst in the California oil section. Thousands of dollars' damage was done before the blaze was controlled.

The Marine Division Passes in Review

The only water fire department of Germany recently was reviewed by its chief. The fireboats of this company are situated at Lubbenan. The equipment is mounted on row boats. This seems strange when compared to American practice.

MIDDLEBURY, VT.—Pease block damaged..... 125
MOUNT AIRY, N. C.—Goldsmith building destroyed..... 150
JONESBORO, TENN.—Three business bldgs..... 40
NASHVILLE, TENN.—Southern garage destroyed..... 40
ROCKY MOUNT, N. C.—Planters & Commercial Bank Bldg.... 25
SO. LEE, MASS.—Two barns on Ascension farm school..... 25
RICHBURG, S. C.—Property of Mrs. R. H. McCrorey..... 25
HARTFORD, WIS.—The Frank Haupert Bldg. destroyed 80
TICONDEROGA, N. Y.—Boat house of W. T. Henry & Son.... 70
OTTAWA, ONT.—Pretoria apt. house damaged..... 25
WELLSBORO, PA.—Gaines Hotel and adj. property..... 40
CLEARFIELD, PA.—Cowdrick Drug store..... 65
JERSEY CITY, N. J.—Louis Tevins garage..... 25
ALGIERS, LA.—Bldg. of U. S. Veterans' Hospital..... 40
SOMERVILLE, MASS.—Factory of J. W. Whitney Barrel Co.. 65
ROXBURY, MASS.—Roxbury Mansion destroyed..... 30
BIRMINGHAM, ALA.—Bldg. of Wilson Packing Co..... 25
GREENWOOD, LA.—Little Inn and adj. property..... 40
LIMA, OHIO.—Allen County Courthouse..... 80
ROSS, PA.—Two Morrison Ave. dwellings..... 25
WATERVILLE, ME.—Pomerlau block damaged..... 25
SCOTTSBLUFF, NEBR.—Elevator, Scotts Elevator Co..... 25
E. LIVERPOOL, OHIO.—Plant of Buckeye Lumber Co..... 160
NESQUEHONING, PA.—Sacred Heart Parochial School..... 80
NEW LONDON, OHIO.—J. Thomas garage and adj. property... 60
LOS ANGELES, CALIF.—Laboratory, Uni. of California..... 80
BLOOMINGTON, IND.—Kresge store and adj. property..... 80
GREENFIELD, IND.—Bldg. of Early Drug Co..... 50
HONEY GROVE, TEX.—Williamson Store, adj. property..... 65
FORT SILL, OKLA.—Hangar at Post Field destroyed..... 125
NORTHPORT, N. Y.—Sawmill of L. I. Lighting Co..... 30
MT. VERNON, OHIO.—Business property destroyed..... 70
PORTSMOUTH, OHIO—Union St. School bldg. destroyed.... 100

Week Ending January 18

PHILADELPHIA, PA.—Mill of S. B. Vrooman & Co..... 200
MAMARONECK, N. Y.—Loyal Inn, on Boston Post Rd..... 80
BUDD LAKE, N. J.—Hatakawanna Inn, A. Johnson, owner.. 25
WEST NEW YORK, N. J.—Power house, Public Service Corp.. 80
SEATTLE, WASH.—Seneca Hotel and adj. property..... 65
BOSTON, MASS.—Bldg. occupied by Nat'l Casket Co..... 65
COUNCIL BLUFFS, IA.—Whse. of Grape Growers Assn..... 30
SHERRODSVILLE, OHIO—Business property destroyed..... 25
DULUTH, MINN.—Anderson Furniture Co., adj. property..... 40
BROOKLYN, N. Y.—St. Malachy's Parochial School..... 65
HINSDALE, ILL.—Home of W. B. Brown destroyed..... 80
BATTLE CREEK, MICH.—Bldg. of Carpenter Grain Co..... 30
WORCESTER, MASS.—Bldg. of Wakefield All-Steel Wrench Co..... 40
HATTIESBURG, MISS.—Runnelstown High School, 12 mi. E.. 25
MT. KISCO, N. Y.—Residence of F. L. Fuller..... 165
FREEPORT, N. Y.—Casino Hotel destroyed..... 65
ST. PETER, MINN.—Methodist Church destroyed..... 25
FT. WORTH, TEX.—First Baptist Church destroyed..... 175
SPRING LAKE, N. J.—Cottage of H. Clayton..... 40
MISSIOURI VALLEY, IA.—Presbyterian Church destroyed.... 30
DENVER, COLO.—Garage of Armour & Co..... 25
NEWARK, MD.—Hastings Office bldg. adj. property..... 25
CAMDEN, N. J.—Dry dock, Noecker & Ake Co..... 30
PERU, MASS.—Summer home of H. Sperry of Albany, N. Y... 50
GREENWICH, CONN.—Greenwich Country Club..... 65
WINNEBAGO, MINN.—Business block destroyed..... 165
ONTONAGON, MICH.—High school bldg. destroyed..... 125
LAREDO, TEX.—Brennan-Corrigan garage destroyed..... 80
WOBURN, MASS.—Factory of Dorrington Leather Co..... 50
WYNCOTE, PA.—All Hallow's P. E. Church..... 80
LYNDHURST, N. J.—Bldg. at 546 Valley Brook Ave..... 40
TORONTO, ONT.—Bldg. of Buntin Reid Paper Co..... 65
RIDGEFIELD PARK, N. J.—Armstrong's Hotel destroyed..... 40
ROCKLAND, MASS.—Phoenix Block and adj. property..... 200
CHATHAM, LA.—Store, Chatham Drug Co., adj. property.... 25
LAKE WORTH, TEX.—Moslah Shrine Temple damaged..... 125
BALTIMORE, MD.—Bldg. occupied by J. W. Mealy Sons..... 80
N. TOPEKA, KAN.—Bldg. of Central Mills Co..... 125
JASPER, FLA.—Hamilton County Court House damaged..... 30
TAMPA, FLA.—Stock of Tampa Brokerage Co..... 30
OTTAWA, ONT.—Whse. of British American Oil Co..... 25
HAMILTON, OHIO.—Bldg. of Anderson Furniture Co..... 250
REDWOOD FALLS, MINN.—Christian Church destroyed..... 30
E. WALPOLE, MASS.—Barn on J. B. Lewis farm..... 40
WATKINS GLEN, N. Y.—High School bldg. destroyed..... 200
ALEXANDRIA, LA.—Alexandria Bank Trust Co..... 25
BUFFALO, N. Y.—St. Matthews Parochial School..... 150
ST. PAUL, MINN.—Storage plant, Armour & Co..... 80
WEBSTER, MASS.—St. Louis parochial school destroyed..... 50
SCHENECTADY, N. Y.—Parkwyn Apartments destroyed..... 25
LYNN, MASS.—Whse. of Bloomberg Furniture Co..... 80
HAMILTON, MO.—First National Bank bldg..... 40
WHITEHOUSE, N. J.—Dairy barn on A. C. Durling farm.... 25
SO. DEERFIELD, MASS.—Whse. of Connecticut Valley Onion Co..... 80
PITTSBURGH, PA.—Bldg. of Consolidated Storage Co..... 200
BATESVILLE, ARK.—Presbyterian Church destroyed..... 40

Chief Murphy Entertained in New York

Chief Thomas R. Murphy of San Francisco, Cal., spent the Christmas holidays in New York with his daughter, Miss Claire. They were the guests of Honorary Deputy Chief and Mrs. Robert H. Mainzer. Chief Murphy came east for a change of atmosphere and scenery. He is convalescing from a recent illness. While in Gotham he was entertained "royally" (he said so himself) by Chief Kenlon, Honorary Chief Mainzer, Dr. Harry M. Archer, Honorary Deputy Chief E. J. Kenny and by his Golden Gate friend, Fred H. Greenebaum, a native San Franciscan but now a New York banker, member of the Stock Exchange and an Honorary fire chief of the N.Y.F.D.

While in the east Miss Claire Murphy made a week-end trip to Laconia, N. H., to the home of a friend, Mr. Arthur Spring, a third year classman at Annapolis. His father has been fire chief of Laconia for twenty-four years. Although away from home at Christmas for the first time in his life, Chief Murphy was made to feel quite comfortable.

WM. JEROME DALY.

Anderson Made Fire Alarm Head

Captain Frederick G. Anderson, for the past twelve years assistant superintendent of fire alarms and police signal systems at Bridgeport, Conn., has been elevated to the position of superintendent of the same system by the Board of Fire Commissioners. Supt. Anderson succeeds the late R. Arthur Brown, who died suddenly on October 24 last.

He has been connected with electrical work for a number of years prior to his joining the Bridgeport Fire Department. The new official was appointed on March 6, 1916, and promoted to assistant superintendent of the alarm system on September 1, 1917. Supt. Anderson's assistant in the fire alarm department is Captain Joseph Brady, now head of the line department.

T. F. MAGNER.

Two Killed Trying to Rescue Boy Trapped in Fire

Two men who attempted to save a fifteen-year-old boy at a fire in Brooklyn, N. Y., were killed. Firemen battled for over three hours before the blaze was brought under control. The photograph shows the fire at its peak.

History and Evolution of Fire Fighting

Development of Steam Fire Engine—First One Built in United States—History Continued from Last Issue

By FRED SHEPPERD, Managing Editor of FIRE ENGINEERING*

AS noted previously, the hand engine held its own until a short time prior to the Civil War. The development of the steam fire engine, whose period of service overlaps that of the hand apparatus, is outlined below.

No history of the steam fire engine would be complete without a word regarding the first ever built.

To England belongs the credit of conceiving the idea, and to America belongs the honor of perfecting the invention. And, as a result, the American steam fire engine in its prime stood unrivaled by any other in the world.

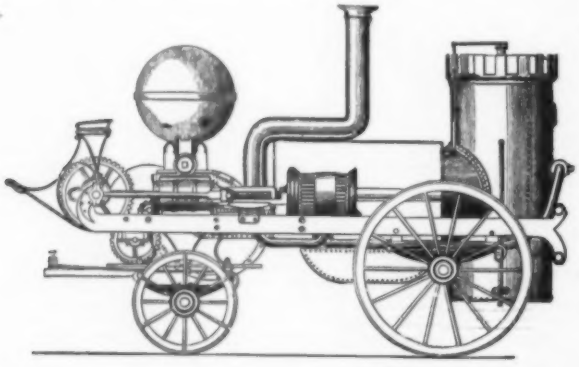


Fig. 11—Braithwaite's Fourth Engine—The "Comet." (Built for the King of Prussia in 1832)

In the year 1829 the first fire engine ever built was made in London by George Braithwaite, a celebrated hydraulic engineer, assisted by Capt. John Ericsson, later the designer of the ironclad "Monitor" of Civil War fame.

The first steam fire engine was named "Novelty"; weight, 2½ tons and rated as ten horse power. The pumps measure 6½ inches in diameter and steam cylinders, 7½ inches in diameter. They were double and placed horizontally; each steam piston, and that of the pump, being attached to one rod.

Braithwaite's first engine is shown in Fig. 11. Evidentally it is intended to be drawn by horses.

The fuel was burned on the forced combustion principle; i. e., to say, it was fed into the boiler from the top and was burned in a closed fire box, the product of combustion passing from the furnace to the chimney by means of a long snake-like tube which extended below the water line several times from end to end of the long barrel of the boiler, and finally passed out at the forward end, near to and above the air chamber of the pump.

This machine would throw 200 to 250 gallons of water per minute at the height of 90 feet. It was run to a number of fires in London and ably illustrated its great value; but every effort of its builder to secure its adoption in the fire service of the British metropolis proved in vain, as both the public and the fire insurance companies were bitterly opposed to its use. Despite the refusal of the English to take hold of the novel fire extinguishing apparatus, Braithwaite and his partner succeeded in convincing less prejudiced communities of the utility of their machine and built several more.

First Steam Engine Built in United States

The first steam fire engine built in the United States was constructed by Paul Rapsey Hodge an eminent English engineer, in New York City in 1840-41.

It was at the suggestion of the Underwriters that Mr. Hodge was commissioned to build a steam fire engine; the conditions being that the engine should be drawn by either men or horses, and should throw a stream of water over the flag-staff of the New York City Hall.

The work was commenced December 12, 1840 and completed in the spring of 1841. The engine very much resembled a locomotive, as all earlier makes of steam fire engines seemed to do. Apparently the builders on this side of the water patterned their fire engines after the most popular type of steam operated machines—the locomotive—with a result that quite a number of the earlier designs were self propelled.

Hodge's engine was tested in front of City Hall on March 27, 1841 and threw a 1¼ inch stream over the flag staff, and was approved by the authorities.

It was now that the trouble commenced. The firemen of New York were jealous of the new comer. They wrought themselves up to a bitter opposition; for, if allowed to work, it would distance all competitors and render hand-engines of no account, and the occupation of the volunteers would be gone. The great trouble now was to get a company to work her; and for some time she lay a white elephant on the insurance company's

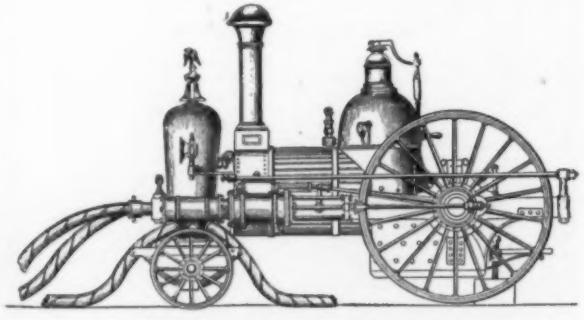


Fig. 12—Hodge's Steam Fire Engine

hands. The firemen shrank from it; it was novel; it foreboded change. Its owners finally applied to the foreman of the Pearl Hose Co. No. 28 to take charge of it. He submitted the matter to his company, who unanimously determined to man her; hence to this company belongs the honor of using the first steam fire engine in America.

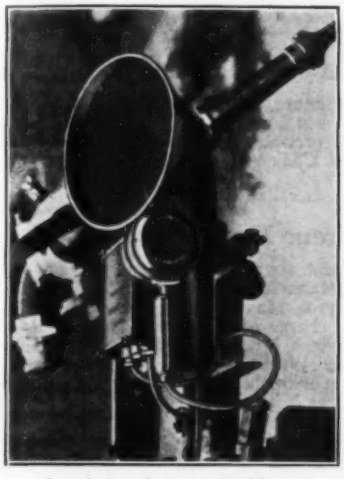
After a few months use it was given up. It is but justice to say that the employment of steam fire engines

(Continued on page 76)

* From a paper read before the annual convention of the Pacific Coast Association of Fire Chiefs at Sacramento, Cal., Oct. 1-6, 1928.

Loud Speakers Used on Aerial Ladders

Something novel from the viewpoint of American fire practice, has been developed by an English company. It is a loud speaker unit to be placed on aerial ladders so that an officer on the ground will be able to give direction to men working at higher levels.



Loud Speaker on Ladder

It operates on a voltage which can be found in the electrical circuit of the fire apparatus. There is a connecting cable operated by a self-winding drum. This ensures the cable being drawn in or out as the extension ladder is operated.

There have been a number of devices placed on European markets to facilitate the officers giving orders to men who were located in a burning building or at some other high point.

Chief Killed By Wife's Alarm

Assistant Chief J. N. Bryan of Lubbock, Tex., was killed while answering a fire alarm that was turned in by his wife.

The wife of the chief lived near the burning building and she turned in the alarm. In going to the blaze, the car skidded and turned completely over. The chief became unconscious and he died later at a local hospital. Other men on the apparatus were slightly injured.

Offices in the city hall were closed to honor the memory of the former assistant fire chief.

Chief Noll Heads Examination List

Due to a change in local fire department regulations, Chris W. Noll, for many years chief of the fire department in Poughkeepsie, N. Y., had to take a civil service examination in competition with other candidates to get permanent appointment as head of the department. Chief Noll was number one on the list and is therefore permanent chief of the department, removable only upon charges.

For many years he was active in volunteer fire department circles, and looked upon in the Hudson Valley section, as an authority on fire department matters.

CORRESPONDENCE

Method of Extinguishing Fire

To the Editor:

In the November 14, 1928 issue there was an article on the suggested method of handling a lumber yard fire. I am of the opinion that it is wrong to place the blame on an officer after the fire is out, because the fire was not handled properly.

I am also of the opinion that these companies were not drilled properly. An officer in charge of any district consisting of such hazards should drill his companies to know what and how to fight fires in any of the buildings in this section, under varying conditions.

Now I would like to give an illustration.

We had a large auto race track one and one-fourth miles long located two miles from our station. The track was badly damaged by the Florida hurricane of 1926 and wreckage was piled across our only passage to the water source. I requested that this passageway be cleared. About eleven months later, a fire developed at the boardwalk entrance to the track, and because of our preparedness, the men knowing just what to do, the fire damage was only three hundred dollars. There might have been a loss of $250,000.

Our last fire call came in May 10, 1928. I believe that this is a record to be proud of.

Yours truly,
T. B. BOYER,
Chief of Fire Department, Fulford, Fla.

GASOLINE TRUCK COMPANY CHARGES NEW YORK WITH PATENT MONOPOLY

Action Brought by Smith-Haamburg-Scott Welding Co. in Supreme Court—City Defends Action—Possible Oil Fires in City Described in Defense

By WM. JEROME DALY

As this issue goes to press, a decision is expected momentarily from Justice Aaron J. Levy in the Supreme Court of New York County, who will determine whether or not the New York Fire Department's specifications governing the construction of gasoline tank trucks constitute a monopoly in favor of the Columbian Tank Company of Kansas City, by reason of its alleged patented protruding heads in the welding.

Congressman John J. O'Connor, counsel for the Smith-Hamburg-Scott Welding Company of New York City, argued before Justice Levy his motion to restrain Fire Commissioner John J. Dorman of New York from further approving the Columbian tank and also as to why the Fire Commissioner should not be required to approve the pending application of the Smith-Hamburg-Scott Welding Company for a certificate of approval of its particular type of gasoline tank truck.

It was charged by Congressman O'Connor in open court that "the gasoline tank truck monopoly," aided and abetted, he said by the Fire Department, "is as scandalous as the so-called Queens County sewer pipe scandal."

It was charged that the exclusive approval of the Columbian tank was in contravention of the New York City Charter which provides that no householder or freeholder shall be required to buy a patented article. The Columbian tank is patented, he averred, because of the protruding heads at the joints—a feature specified in the Fire Department's regulations, as adopted in March, 1925.

The Smith-Hamburg-Scott attorney said his client was unable to obtain a certificate of approval for his product because he could not make a tank with protruding heads without infringing on the patented feature complained of. The Smith-Hamburg-Scott tank, he declared, met every other requirement of the fire department's regulations, that such a tank had been sold to the Standard Oil Company in April, 1928, that the Standard Oil Company had applied to the fire department in May, 1928, for a certificate of approval and that the Fire Commissioner had denied the application.

That the Smith-Hamburg-Scott Company cannot sell any tanks in New York City, where they are manufactured, due to the alleged illegal specification, was brought to the Court's attention by O'Connor who further charged that the Board of Hazardous Trades, an adjunct to the Bureau of Fire Prevention which passed on the tank truck specifications, had not been called into session because its chairman, Deputy Fire Commissioner Joseph M. Hannon, had refused to assemble the members of the Board, even though ordered to do so by Commissioner Dorman.

Mr. O'Connor declared that the specifications were written by the Columbian Tank engineers and handed to the fire department. He charged "connivery" and said that similar specifications do not exist anywhere else but in New York. "The oil companies will not submit to this extortion," said the attorney. "This matter has been jockeyed around for four years in the interest of this 'favorite son tank.'"

Assistant Corporation Counsel Arthur J. W. Hilly, defended the policy of the Fire Commissioner and painted for the Court's enlightenment a word picture of the horrors that would accrue from a fire in the city streets, due to a leaking gasoline tank truck. He pictured tongues of flame dropping down into the subways and roasting thousands of innocent people. He said it was the duty of the Fire Commissioner to see to it that only the best material and workmanship were in the gasoline tank trucks. He denied that the protruding heads feature of the welding was a patented device and insisted that Smith-Hamburg-Scott could obtain a certificate of approval if they would build and submit for test a tank meeting the requirements of the department.

Mr. Hilly denied that the specifications favored any patented article. He promised that if the injunction were dissolved the Fire Commissioner would approve within twenty-four hours the pending applications of any tank builders whose product met the specifications. There are several pending, but only the Columbian has thus far been approved.

Changes Made in Brockton, Mass., Uniforms—Firemen in Brockton, Mass., will wear blue shirts instead of black, and the officers will wear white shirts with black ties.

Chief Moxham of Lynnfield, Mass., Injured—Chief William W. Moxham of Lynnfield, Mass., was injured when his roadster skidded and overturned on the road between South Lynnfield and Lynnfield Center.

Southwestern Chiefs to Meet in Shreveport

The second annual convention of the Southwestern Association of Fire Chiefs is to be held at Shreveport, La., on March 25, 26 and 27.

Chief S. J. Flores, of that city is making preparations for a big gathering on that occasion. Chief J. E. Taplin, of Blackwell, Okla., is president of the association, and Chief Tom Lyle, Okmulgee, Okla., is its Secretary.

Summary of N. Y. F. D. Activities

There were 24,331 fires in New York city last year, an increase of 1,389, according to Fire Commissioner John J. Dorman. During the year 122 persons died and 302 were injured in fires; forty-one were arrested and charged with arson, twenty-three of which were convicted; five new fire engine houses containing ten fire companies were opened in Queens village, Astoria, Flushing, Eastchester and Great Kills.

These houses cost $322,001. Four additional fire houses were contracted for and construction started in Middagh street and Foster avenue, Brooklyn, East 13th street, Manhattan, and at Edgemere, L. I., totalling $267,453 in cost. Bids were received and contracts are soon to be awarded for new fire stations at Clasen Point in the Bronx, St. Albans, Hillcrest, Douglaston, East Elmhurst, Rosedale and Coney Island, all costing $459,967.

Fifteen aerial trucks, six pumping engines, one water tower and 18 hose wagons were purchased costing $368,820. One hundred and twenty-four thousands, two hundred and fifty feet of hose were bought for $97,182; a new fire alarm central station in Forest Park for the borough of Queens was opened to replace the half century-old fire alarm central in the old Jamaica town hall. The new fire alarm plant costs $264,259 and has a capacity for five hundred circuits. Other fire alarm equipment and plant contracted for during the year cost $678,231. The fire alarm telegraph bureau installed 76,240 feet of pipe, 257,613 feet of cable, erected 507 fire alarm posts, 165 manholes and added 225 fire alarm signal boxes to the system.

The 1929 program of fire alarm extension calls for the expenditure of $1,347,000.

The Fire Prevention Bureau filed 4,900 plans and approved of over 8,000 plans, many of which had accumulated for several years previous; 102,815 permits were issued by the bureau, an increase of 5,599; fees collected on combustible permits amounted to $895,567, an increase of $75,708. The Central Building Inspection Squad made 71,000 inspections.

The sum of $250,000 was conserved on retirements and other changes in personnel without impairing the efficiency of the fire fighting force. The sum of $4,200 was saved through the disbandment of two volunteer fire companies. The sum of $2,667 was authorized for new sites for fire engine houses to be constructed in 1929 as follows: Auburndale, Middle Village, Gerritzen Beach, Castleton Four Corners, Gun Hill road, Vernon avenue, Long Island City; Radde street, Long Island City, South Ozone Park, College Point, South Beach, Flushing, Murray Hill, Queens; Cresskill place, and also Bandman avenue in Jamaica; Rosebank, New Brighton, Mariners Harbor and Dongan Hills in Staten Island.

Three hundred and thirty-two firemen were appointed, four captains were promoted to battalion chief, 35 lieutenants to captain and 69 blueshirts to lieutenant. Six members of the department were dismissed, 20 resigned, one of whom is Esmonde O'Brien a marine engineer who sailed with Commander Byrd and is now in the Antarctic with that expedition, 205 members retired on pensions, 48 died of which number four were killed in the line of duty. The total number of fire companies last year was 336. The budget for 1929 is $20,180,312, an increase of $212,654, due solely to mandatory additions to the force for the organization of new fire companies and for the additional equipment and apparatus required, and which if eliminated would reduce the 1929 budget by $182,180.

W. J. DALY.

Tourists Trapped in Woolworth Tower

Five men and a woman found that it was far from pleasant to be at the tip of the tower in the Woolworth Building, New York, fifty-eight stories in the air, with a fierce wind buffeting them, and a fire below that partly cut off their escape.

As the group were studying the majestic scene from the tower, the panorama of New York, New Jersey, Long Island, and the bays, one noticed smoke coming out of a cornice. He went down to investigate. There was no response to his ring for the elevator that runs from the fifty-fourth floor to the tower platform. Going down by way of the stairway which was filled with smoke, he found that elevator machinery was on fire. He worked his way back to the group on the tower.

Two of them followed their guide to safety, but the other two, believed by some to have become confused by the smoke, elected to remain on the platform until the fire was extinguished.

Firemen went up by elevator as near to the blaze as possible and then had to climb several floors. Meanwhile the men on that floor tried to extinguish the fire with the building appliances. The firemen soon had the fire out—damage was confined to the insulation on the wires and cables running through the elevator shaft from the fifty-fifth to the fifty-seventh floor.

Colorado to Act on Model Arson Law

The Colorado state legislature is now considering a bill to adopt the so-called model arson law which is now being enforced in fifteen states. The bill presented is in conformity with the policies of the Chamber of Commerce of the United States at Washington, D. C.

Weed Joins Pyrene Manufacturing Co.

E. G. Weed, for the past six years president and general manager of the Pyrene Manufacturing Company of Canada, Limited, will join the Pyrene Manufacturing Co. at Newark, N. J., as vice-president in charge of sales and advertising.

For more than twenty years Mr. Weed was connected with the American Ever Ready Works and the National Carbon Company. Prior to joining with the Canadian organization, he was western manager of the National Carbon Company's Chicago offices.

Chief Blamed for Lynn, Mass., Fire

And inquest held on the death of twenty persons in the explosion and fire of the Preble Box Toe Co., in Lynn, Mass., late last year, placed some of the blame for this loss to violations on the part of Edward E. Chase, chief of the fire department. It was stated that the factory officials did not realize the dangers in the manufacturing processes. In part, the findings read:

"The court, however, can reach no other conclusion than that the unlawful acts and negligence of the Preble Box Toe Company, under its officers, contributed to the deaths of all these deceased persons.

"The court is irresistibly forced to the following conclusions:

"That the chief of the fire department did not give proper attention to the statutes, rules and regulations, and to the letters of delegations of power from the fire marshal and the department that preceded him.

"That he did not have the proper conception of his duties in reference to fire prevention and consequently did not perform those duties properly.

"The court cannot find that any unlawful act or negligence of his contributed to the death of the deceased. His neglect is too indirect to come within such a finding.

"Within the meaning of Section 43, the court finds that there has been a violation of that section by the chief of the Lynn Fire Department, Edward E. 'Chase."

Further action in the case, if any, will come from the District Attorney's office.

Siphon Undergoes Severe Test

The value of the new water siphon being sold by the P-B Manufacturing Co., St. Louis, was demonstrated when a cloudburst filled an excavation in Forest Park, St. Louis, Mo. Pumps failed to work in this thirty-seven-foot excavation.

The P-B siphon was used. It was placed in the hole, connected to the hydrant that was supplied with seventy pounds pressure, and within ten hours, the siphon had removed 99,000 gallons of water. Only one man was required to operate the device.

In operation, water enters the siphon from the hydrant and then leaves by way of the large outlet. In passing through the siphon, the velocity of the water draws a large flow of water from the place to be emptied. There are no moving parts and neither mud nor other grit will affect its operation.

Aerial Delivered to Oklahoma City—A 75-foot aerial has been delivered to Oklahoma City. This is the first of the three ladders that are to be delivered—the others are 65-foot ladders.

Williamsburg, Va., to Have Fire House—John D. Rockefeller, Jr., who is interested in restoring Williamsburg, Va., to its Colonial glory, will provide the city with a $30,000 fire station and purchase adequate equipment for it, and he will also pay the salary of two permanent firemen.

NEW STANDPIPE RULES ADOPTED FOR THE CITY OF NEW YORK

Board of Standards and Appeals Formulates New Regulations—To Be Published in Their Entirety in These Columns

HEREWITH is continued from the November 28 issue the new "Standpipe-Fire Line Rules" of New York City. The original rules were adopted by the Board of Standards and Appeals of that city on June 22, 1922, were amended July 20, 1923, and again on May 18, 1928. The finally adopted form, as reproduced herewith, were adopted July 20, 1928. Through the courtesy of Chairman William E. Walsh, of the Board, FIRE ENGINEERING *is enabled to publish the entire new rules serially.*

These new rules are formulated largely through the efforts of Peter J. Maher, Fire Prevention Inspector attached to the Division of Fire Appliances of the New York Fire Department. Following is a continuation of Rule 48:

PILOT LAMP AND INSTRUMENTS.—(a) A pilot lamp connected on the motor side of the circuit-breaker must be provided to indicate the presence of voltage on the line.

(b) A voltmeter and ammeter must be provided and suitably mounted and connected as a part of the control equipment.

MARKING.—(a) A name plate must be provided giving the name of the manufacturer and the rating of the equipment in volts and amperes.

(b) All line and motor terminal connections must be suitably marked so that they can be readily identified.

CONTROL PANEL.—The control panel shall be constructed of a high grade of electrical slate or marble or other approved material.

The supporting frame shall be so arranged that the bottom of the panel will not be less than 24 inches above the floor.

INSTALLATION OF APPARATUS.—The control panel shall be located close to and within sight of the motor. If a pump room used for no other purpose and containing no other apparatus except the fire pump, its motor and its accessory appliances is provided, the controlling equipment shall be placed in this room.

The control panel shall be so protected that it will not be injured by water escaping from pump or connections.

Except where special permission is granted by the Fire Commissioner the controlling equipment shall be protected from mechanical injury by one of the following methods:

(a) Grille or lattice partitions so placed as to completely enclose the control panel and starter.

(b) The entire equipment of the panel and starter may be enclosed at the sides, front, back and top in a thoroughly substantial, ventilated sheet iron or steel cabinet of not less than No. 12 U. S. metal gauge in thickness with hinged doors with glass panel in front of pilot light. When panel is in a fireproof room and not subject to mechanical injury an enclosing cabinet shall not be required.

TEST OF EQUIPMENT.—The entire equipment shall be subject to test and inspection by representatives of the Fire Commissioner.

POWER SUPPLY.—Where the power supply can be obtained from two separate street feeders, two separate and distinct services shall be installed.

Where current is taken from an underground Edison three-wire system and the power lines are protected by approved conduit from a point where they enter the building to the control panel in the pump room, it will be considered an acceptable source of power supply.

Isolated Plant.—Where the source of supply is an isolated plant located in the building an auxiliary service of sufficient capacity shall be obtained from some outside source.

Transmission Lines.—(a) The lines between the power plants and the pump room must be of such number, so arranged and so located that there will be small chance of an interruption of service to the motor, due to accident to the lines. All wiring in the pump room must be in approved conduit.

Where the valves involved are large and the crippling of this pump service would seriously affect the protection of the property, at least two separate lines from the power plant or plants to the pump installation shall be provided. The lines must be run by separate routes or in such manner that a failure of both at the same time will be only a remote possibility.

(b) Each line between the power plant and pump room shall be of such size that its safe carrying capacity as given in Chapter 9 of the Code of Ordinances will not be exceeded by the load carried.

Where direct current motors are used, the voltage at the motors must not drop more than 5 per cent below the voltage rating of the motors when the pumps are being driven at rated output, pressure and speed, and the lines between motors and power stations are carrying their peak loads.

When alternating current motors are used, the voltage at the motors under these same conditions must not drop more than 8 per cent below the voltage rating of the motors.

(c) The overload protective devices at the power plants, and where provided at various points on the lines, must be of such rating and so set that they will open the circuit only under short circuit conditions.

Approved fuses may be used, if desired, except for the protection of the pump motor where circuit breakers are required. The fuses, however, must be of such size that an overload or short circuit at the motor or its control apparatus will not cause them to open the circuit, but instead, the circuit breaker protecting the motor.

TRANSFORMERS.—Where it is necessary to install transformers they shall be installed in accordance with Chapter 9 of the Code of Ordinances.

Rule 49. SIGNALLING DEVICES.—All buildings where variable speed control of fire pump motors is required shall be equipped with an approved coded closed circuit signalling system. The signalling stations shall be located one on each floor at main riser. This system shall be so arranged that a coded signal can be transmitted to the pump rooms. An eight-inch gong shall be provided in all pump rooms and at such other locations as the Fire Commissioner may direct. All apparatus used in connection with the signalling system shall be of an approved type and installed as outlined in rules governing the installation of interior fire alarm systems.

At alternate signal sending stations there shall be provided an approved closed circuit strap key enclosed in a sheet metal box equipped with a paracentric Fire Department lock and approved hinges.

The strap key shall be connected in series with the box circuit of the signal sending station.

A card of instructions shall be placed in the pump room giving code numbers of signalling stations, the pressures obtainable at different speeds of the motor and such other information the Fire Commissioner may direct.

(*To be continued*)

Two Killed in Chemical Plant Explosion

Two persons were killed in an explosion that destroyed the chemical plant of the Western Industries Corporation in Richmond, Cal. A number were seriously injured.

The explosion occurred at 10:15 a. m. and was heard and felt for miles around. It was preceded by a peculiar hissing sound. One side of the building, one hundred by one hundred feet, was blown out. Some of the bodies were hurled from the second floor of the factory.

It is believed that a spark from an acetylene torch set fire to an acid mixture in a 10,000-gallon tank, and caused the blast. The entire interior of the plant was wrecked, and windows were broken for blocks around.

New York City Blast Kills Two and Wrecks Three Buildings

Two persons were killed, nine injured and three buildings wrecked following an explosion in the plant of the Kill-All Disinfecting Co. in New York City. The photograph shows firemen searching the ruins for additional bodies and clearing away the debris.

Standardize Your Hose Couplings

(Continued from page 52)

The work of conversion has now been successfully completed in about thirty cities of over 100,000 population, among which are Boston and Fall River, Massachusetts; Hartford and New Haven, Connecticut; Indianapolis, Indiana; Trenton, New Jersey; Washington, D. C.; Baltimore, Maryland; Kansas City, Missouri; Columbus and Youngstown, Ohio; Grand Rapids, Michigan; Memphis, Tennessee; Dallas and Fort Worth, Texas; and Seattle and Spokane, Washington. Legislative bodies in four of our states have passed bills making it mandatory that all public fire protection equipment shall be equipped with the National Standard 2½ inch fire hose thread.

Thus it is seen that after a half century of effort, the results obtained in a short period of eight years have brought the desired goal of nation-wide uniformity in the indispensable fire hose threads within comparative easy reach. The accompanying map which is reproduced through the courtesy of the American Society of Mechanical Engineers indicates the progress made in this field throughout the country.

Value of Standardized Couplings

In February, 1928, the city of Fall River, Mass., was threatened with complete destruction, by virtue of a fire originating in a group of mill buildings which were being dismantled. As the fire spread with great rapidity calls were sent to nearby cities for assistance. Twenty-four communities responded by sending 37 pieces of apparatus. Due to the standardization work which had been completed three years before in Fall River, the hose carried by all of this outside apparatus was connected directly to the Fall River hydrants or hose lines. With an adequate amount of working apparatus available the fire was brought under control after the destruction of parts of six blocks, as compared with the possible burning of the entire city which might have ensued without the outside assistance.

Another outstanding example of the value of standardized couplings was a call for aid made by the Washington, D. C., Fire Department within recent months when an incendiary had, within a few minutes, set off several fires in the city which overtaxed the resources of the local fire department. Apparatus from Baltimore and other nearby towns arrived in a short time after being summoned and was ready to protect the city from further destruction. How different this was from the Baltimore fire of 1904 when Washington's apparatus was helpless because it was impossible to connect with Baltimore's hydrants!

A Field for Local Chambers

In any community in which the National Standard has not yet been adopted, the fire prevention committee of the local chamber of commerce may logically sponsor a movement to change the threads so that they will conform to the National Standard. This activity has been recognized in the Inter-Chamber Fire Waste Contest as one for which credit is given and consequently any committee doing work in this field will be given due recognition for it in the Contest. Inquiry on the part of the local committee will soon develop whether or not the municipality has adopted the National Standard Thread or some so-called local standard. If the city is not safeguarded by the use of the standard the subject might be taken up with the municipal officials for the necessary authorization to get the work of conversion actually under way. The cost of standardizing the existing fittings in the average city is negligible.

How Standardization Can Best Be Accomplished

With the cooperation of the manufacturers complete sets of tools have been perfected for changing (by resizing and rechasing) the existing non-standard fitting so as to make them standard. Distributed throughout the country are about 100 sets of resizing tools, purchased largely by state supervisory organizations. In almost any locality arrangements could doubtless be made not only for the loan of a set of tools, but also for a demonstration.

The Insurance Department of the National Chamber will gladly assist any community interested in such a demonstration. Invitations to attend demonstrations should be sent to the municipal officials, heads of fire and water departments and representatives of civic bodies, not only in the city where the demonstration is being held, but in the neighboring communities that would be called upon to render aid in the event of a large spreading fire. Samples of the threads used in the several communities should be exhibited to show the existing variations and with the resizing and rechasing tools these samples should be made to conform to the National (American) Standard. Any local skepticism or indifference theretofore existing will thus be supplanted by enthusiastic support. Having obtained the tools and necessary authorization, it is then a matter of providing an experienced mechanic to supervise the work with the help of fire and water department mechanics, thus accomplishing standardization at a very small cost.

Conclusion

The final adoption of the National Standard Thread and the changing over of existing equipment to conformity with the standard will not alone insure for all time in the future the matching of the fire hose fittings of a community. This can only be accomplished through constant vigilance which begins with careful inspection of all the threads of each new lot of fire hose and fire hydrants as they are purchased. It is obvious that this inspection must be more than a casual examination of the threads and the screwing on of an old mating part to the new coupling or nipple. Hardened steel models or gages are available at moderate cost through the use of which newly purchased equipment may be tested before acceptance. Through this means absolute uniformity will be insured.

Bridgeport Lowers Fire Loss

The Bridgeport, Conn., fire department had the lowest fire loss in the history of the city during the year of 1928, according to a report filed on January 1, by Chief Thomas F. Burns. Based on a population of 145,000 persons, the loss was held to thirty-five cents per person. The department answered 995 alarms with a total money loss of $51,147. The value of property involved, according to Chief Burns' report, was $8,480,829.

Spontaneous combustion was the most frequent cause of fires in 1928 with a loss of $11,425. One hundred and twelve alarms for auto fires caused a loss of $5,598. Careless smokers caused a loss of $3,847. Frame buildings were the structures most often visited by fire, there being 275 in this particular classification as compared to 103 in brick and stone buildings. Twenty false alarms were registered during the year.

T. F. MAGNER.

Worthington, Minn., Receives Pumper—A 500-gallon pumper has been delivered to Worthington, Minn. It is equipped with an eighty-gallon water tank.

99,000 gallons of water removed from 37 ft. excavation in only 10 hours

— without the use of pumpers

On August 17, 1928, a cloudburst filled an excavation in Forest Park, St. Louis, Mo. The water made property loss imminent. Immediate relief was necessary. Pumps failed. The Fire Department was called to take charge. Our Syphon was put on the job. In 10 hours 99,000 gallons of water were removed, using plug pressure of 70 pounds. One man handled the work—no fire apparatus used. That is doing the work, isn't it?

TRY THIS NEW WATER SYPHON

Our Syphon has overcome gravity. It is governed entirely by the pressure you put behind it. Fire Chiefs are enthusiastic about the Syphon because it saves wear and tear on pumpers and permits apparatus to remain in the station.

Take this Syphon. Try It!

See for yourself how it removes water, sand, mortar, charcoal, and dirt from cellars and basements. If it doesn't do what we say, return it. When ordering, send us 2½ male and 4 inch female couplings to insure proper thread sizes. **This is important!**

Price only $90.00, F.O.B. St. Louis. Couplings $10.00 extra. The height is 20 inches, width 12 inches and weight 35 pounds.

Send your order today. Try this Syphon on our 30-day return guarantee.

P-B MFG. CO., INC.

4567 Swan Ave., - - - - St. Louis, Mo.

BRAXMAR
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have been the recognized standard for fire departments for almost 50 years. Used everywhere. More than 900 designs. Send for illustrated catalog and prices.

C. G. BRAXMAR CO.
242 W. 55th St., N. Y. C.

Many Prominent Fire Chiefs Endorse

"Shuredry" WATERPROOFED **Salvage Covers**

"SHUREDRY" Covers stand the gaff. They give unfailing satisfaction — *always* . . . as proof of which, read what Chief Cody of the Atlanta Fire Department has to say of them:

"We have been using 'Shuredry' salvage covers in the Fire Department for a period of twenty years, or more, and have received wonderful service from them. It is my opinion that your covers are superior to any on the market.

"It is with pleasure that I recommend your product to anyone desiring service and satisfaction."

Cost less, weigh less, and easier to handle and spread than rubber covers. Do not crack when folded and left on shelf.

Write for sample and price.

FULTON BAG & COTTON MILLS
Manufacturers Since 1870
Atlanta Dallas Brooklyn St. Louis
Minneapolis Kansas City, *Kansas* New Orleans

MATHEWS
(Reg. U. S. Pat. Off.)
FIRE HYDRANTS
for
DOMESTIC
and
HIGH PRESSURE
Service

NOTE—

The positive waste value.

All operating threads are dry, being above the stuffing-box.

No toggles, no small, quick-wearing parts.

All moving parts are bronze or bronze-bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

An easily installed
EXTENSION SECTION
readily adapts them to new grade.

VALVES and BOXES
CAST IRON PIPE
(Sand-Cast or "Sand-Spun")
FITTINGS

R. D. WOOD & CO., Phila., Pa.

The "Excellight" A FAVORITE with the Fire fighter

Patented Mar. 1, 1921

DURABLE
SIMPLE
ECONOMICAL
WATERPROOF
NON-CORROSIVE
INDISPENSABLE

Used and endorsed by Fire Departments, Railroads and Police Departments. Always dependable.

A Powerful Portable Electric Searchlight

The EXCELLIGHT is always ready, safe, powerful, economical and simple. It is moisture and waterproof, which eliminates short circuits and greatly increases the life of the batteries. The EXCELLIGHT is indispensable, especially around places where inflammable materials are stored or manufactured.

With ordinary use the batteries will last for many months and can be replaced at small cost. Batteries are standard.

Write for sample, full information and net prices.

THE NATIONAL MARINE LAMP CO.
Dept. F. Forestville, Conn.

FIRE DEPARTMENT ACTIVITIES

Chief of Milford, N. J., on Leave—Chief Edward Arnold of Milford, N. J., has asked for a leave of absence because of ill health.

Newcastle, Ind., Firemen Want Increase—An ordinance has been presented in Newcastle, Ind., to give members of the fire department, an increase in pay.

House in Clearwater to Have Machine Shop—The city manager of Clearwater, Fla., has recommended that the new fire house have a machine shop.

Site Selected for Hollywood, Cal., House—Pending official action, a site has been selected on which to erect the $75,000 fire house for Hollywood, Cal.

Lexington, Ky., May Sell Old Fire Station—It is believed that Lexington, Ky., will soon sell the old central fire station on West Short street.

Woodbury, N. J., May Buy Apparatus—The commissioners of Woodbury, N. J., are favorable to the purchase of fire apparatus.

Pumper Purchased for Burlington, Wis.—A Pirsch pumper has been purchased by Burlington, Wis. The pumper is rated at 500 g.p.m., and carries a seventy-gallon tank.

Fire District Formed in Atlanta. N. Y.—A fire district has been formed in the village of Atlanta, N. Y., and fire apparatus has been purchased.

New Company Urged in Santa Cruz, Cal.—A fire company has been urged for the East Side of Santa Cruz, Cal. The matter is being held for consideration.

Wilmington Wants Delay in Sprinkler Act—The Chamber of Commerce of Wilmington, Del., has asked for a sixty-day delay in the proposed ordinance making it compulsory for manufacturing buildings of certain specifications to install sprinklers.

Des Moines Again Asks for Bids—The city council of Des Moines failed to agree on what type of apparatus to buy. A resolution was presented asking the city to invite other bids on a 1,000-gallon pumper.

Kingston, N. Y., to Increase Firemen's Pay—The pay of the chief in Kingston, N. Y., has been increased from $2,700 a year to $3,000, and firemen have received a $240 increase. The other members of the department have also received pay increases.

Chief Murphy to be Back at Desk Soon—Chief Thomas Murphy of San Francisco, Cal., who has been on sick leave is expected to be back at his desk soon. While recuperating, he has been visiting friends and relatives in the east. According to reports, he is much improved.

Fireman Hurt Sliding Down Pole—Awakened from his sleep by the fire gong, a ladderman in Philadelphia, Pa., dressed and leaped for the brass pole. He fell to the floor of the firehouse and suffered a broken ankle. The fireman said that his left arm was numb from sleep so that he lost his grip on the pole.

Mo. Fire Fighters Takes Over Chiefs' Association—The Missouri Association of Fire Fighters, of which M. J. Mulvoy, 3500 Grand Boulevard, St. Louis, Mo., is secretary, has absorbed the Missouri State Association of Fire Chiefs. The combined association will hold its next convention at Jefferson City, Mo., on September 18 and 19.

Cleveland Should Spend $1,500,000—First Assistant Chief James E. Granger of Cleveland, Ohio, stated that the city should spend $1,500,000 to bring the department up to maximum efficiency. Granger stated that a large part of the present equipment is worn out. He said that the city was just fortunate in not being subject to serious fire conditions, as a result.

Boston Cancels Deputy Chief Examination—Since twenty-three of the twenty-seven eligible candidates refused to file application for a promotional examination for deputy chief, the Civil Service Commission of Boston has cancelled the examination. A new examination under different regulations has been ordered for a later date.

Two Killed Going to Fire—Two volunteer firemen were killed and eight persons were injured when a Stowe Township, Pa., fire truck on the way to a fire crashed down an embankment. The driver stated that he was blinded by a dense fog. The company was rushing to fight a $500,000 oil refinery blaze that threatened to destroy the entire plant of the Carnegie Refining Co., near Heidelberg.

San Antonio Station Nearly Finished—The new central fire station of San Antonio, Tex., is rapidly nearing completion.

Madison, Wis., to Erect Fire House—Bids have been invited for the erection of a fire station in Madison, Wis. The station will probably cost $32,000.

Pumper Delivered to Worthington, Minn.—A 500-gallon pumper has been delivered to Worthington, Minn. It carries an eighty-gallon water tank.

Battle Creek May Charge for Fire Runs—Battle Creek, Mich., is considering charging for all fire runs made to aid outside communities.

Port Washington, Wis., to Erect Fire House—Plans have been made for a new fire station to be erected in Port Washington, Wis.

Chief's Car Rams Auto on Way to Fire—Chief Steuhl of Tuckahoe, N. Y., crashed into an automobile on the way to a fire. No one was seriously hurt.

Labor Trades Against Oklahoma Plans—The Labor Council protested to the city council of Oklahoma City, Okla., against the plan to employ university students in the fire stations and using city firemen to construct city buildings.

Kansas May Have Fire School—The Kansas State Firemen's Association is planning the formation of a short course for firemen the same as is given at other state universities. Governor Paulen has approved the proposed short course.

Millville to Remodel City Hall—Contracts have been awarded to remodel the city hall in Millville, N. J., into a modern fire station. The work will be finished by next spring. The building served as a city hall until two years ago.

More Men Considered for Yonkers, N. Y.—The Public Service Department of Yonkers, N. Y., is considering the addition of thirty-six men to the department. The mayor stated that as many as are needed to man the two new fire stations will be considered.

Firemen Plan Construction of Playground—The volunteer firemen of Overbrook, Pa., are considering the construction of a winter and summer playground. As soon as cold weather sets in, the firemen will have a skating rink. During the summer the skating rink will be converted into tennis courts.

Firemen Offer Blood for Chief—Thirty-five members of the North Merchantville and Delaware Garden fire companies, Pennsylvania, offered to undergo a blood transfusion to save the life of the assistant chief. The chief needed the blood to strengthen him for an operation that he must undergo.

Tulsa, Okla., to Sell Bond Issue—In 1927, Tulsa, Okla., voted to issue bonds for a fire station and equipment. Since then the matter has been held up by mandamus proceedings. All that is over now, and the $115,000 bond issue has been advertised for sale.

Members of Eastchester Department Insured—Firemen of the Eastchester, N. Y., fire department have been insured for the period going to or returning from a fire. The policy protects each individual to the extent of $3,000 against accidents. There are 350 volunteer firemen who are thus protected.

David Price Urges More Volunteer Firemen—David J. Price of the Department of Agriculture stated that the volunteer firemen who bear the brunt of many jokes could save many of the $150,000,000 lost in rural fires, if there were more volunteer firemen.

Mishawaka, Ind.. to Buy Pumper— Mishawaka, Ind., will invite bids for a 1,000-gallon pumper. It has been decided that the 750-gallon pumper is inadequate for the central department and it may be moved to the South side department following its replacement.

New Sioux City Fire Alarm Completed—The new central fire alarm office of Sioux City, Ia., has been completed. The improvements were made to comply with the requirements of the National Board of Fire Underwriters which insisted on the changes in a report issued in May, 1927. Cost of the entire new fire alarm system has been placed at $26,400.

New Station Opened in Chicago—Ernest Palmer, manager of the Chicago Board of Fire Underwriters, praised Commissioner A. W. Goodrich of Chicago for having opened his twenty-third new fire station during the twenty months that the commissioner has been in office. In that time he has also installed fifteen new companies. A new water tower was recently placed in service.

PROPOSED IMPROVEMENTS

Montclair, Essex Co., N. J.—Fire Chief Jethro Gibbs recommended to the Town Commission, the purchase of a new 750 gal. pumper; a new motor-driven aerial ladder truck equipped with chemical tank and chemical hose.

Sparrowbush, Orange Co., N. Y.—A new fire station is to be erected here.

Atlanta, Fulton Co., Ga.—A large bond issue was recommended for civic improvements, including the erection of new fire headquarters, according to reports.

Elyria, Lorain Co., Ohio—City Council passed resolution authorizing City Auditor to prepare bonds for purchase of a new fire engine to cost $11,000, and to be placed at the West end fire station.

Lexington, Middlesex Co., Mass.—Special town meeting is to be held shortly for purpose of discussing installation of a new fire alarm system, according to reports. Albert B. Tenney, Chairman of Committee.

Eupora, Webster Co., Miss.—A fire department is to be organized here, and fire alarm purchased.

Position Wanted

Young man 25 years of age, four years experience in Class B fire department, wishes position in City of from 20,000 to 40,000 population, either as driver of apparatus or in the ranks. Address, D. J. Kelley, 36 So. Union St., Burlington, Vt.

Salesmen Wanted

For each State, to handle excellent Fire Department sundries. Write for particulars. P-B Mfg. Co., Inc., 4567 Swan Ave., St. Louis, Mo. 1-23

CONVENTION DATES

March 25-27—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 2nd Annual Convention, Shreveport, La. Secretary-Treasurer, Chief Tom Lyle, Okmulgee, Okla.

April 1-3—FLORIDA STATE FIREMEN'S ASSOCIATION. 4th Annual Convention, Key West, Fla. Secretary, F. C. Pfaender, Winter Haven, Fla.

April 11-13—ARIZONA STATE FIREMEN'S ASSOCIATION. 6th Annual Convention, Yuma, Ariz. Secretary, Chief W. J. Nemeck, Douglas, Ariz.

May, June or July—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 24th Annual Convention, Columbia, S. C. Exact date to be decided later. Secretary, Richard S. Hood, Sumter, S. C.

May 13-16—NATIONAL FIRE PROTECTION ASSOCIATION (International). 33rd Annual Meeting, Memphis, Tenn. Technical Secretary, Robert S. Moulton, 60 Batterymarch Street, Boston, Mass.

June—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. Tentative date of Conventions and first Fire School in Kansas, Newton, Kan. Exact date to be announced later. Secretary of both Associations, Chief K. D. Doyle, Wamego, Kan.

June—SOUTH DAKOTA FIREMEN'S ASSOCIATION. 13th Annual Convention, and Tournament, (Tentative date) Hot Springs, S. Dak. Secretary, M. C. Sullivan, Parkston, S. Dak.

June 12-13—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. 24th Annual Convention, Bremer, Ind. Secretary-Treasurer, Hugh Russell, Bluffton, Ind.

June 12-14—MARYLAND STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Lonaconing, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 20-21—EASTERN ASSOCIATION OF FIRE CHIEFS. 2d Annual Convention, New York City. (Meeting place to be decided later.) Secretary, T. Howell Johnson, Room 602, Chamber of Commerce Bldg., Newark, N. J.

June 24-28—AMERICAN WATER WORKS ASSOCIATION. 49th Convention, Hotel Royal York, Toronto, Ont., Can. Secretary, Beekman C. Little, Rochester, N. Y. Office of Association, 29 West 39th Street, New York City.

June 25-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, Hotel Taft, New Haven, Conn. Exhibits, Second Regiment Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief John S. Pachl, Annex Fire Department, New Haven; Traffic Manager, Geo. F. Cobb, Boston.

July 9-11—MICHIGAN STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Sault Ste. Marie, Mich. Secretary, H. L. Williams, Luddington, Mich.

July 15-16—MONTANA STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Butte, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 17-19—INDIANA FIREMEN'S ASSOCIATION. 12th Annual Convention, Gary, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

August—IDAHO FIREMEN'S CONVENTION. Tentative date, August or September, Idaho Falls, Ida. Secretary-Treasurer, Earl Heath, Idaho Falls.

August—UTAH STATE FIREMEN'S ASSOCIATION. 22nd Annual Convention (tentative date to be decided later), Tooele City Utah. Secretary, Harris E. Anderson, Fire Headquarters, Salt Lake City, Utah.

Aug. 7-9—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Fullerton, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal.

Aug. 7-9—SOUTHWESTERN ASSOCIATION OF VOLUNTEER FIREMEN OF NEW YORK. Annual convention, Falconer, N. Y. Secretary, Royce Alden, Falconer, N. Y.

Aug. 20-23—FIREMEN'S ASSOCIATION STATE OF NEW YORK. 57th Annual Convention, Saranac Lake, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 26-28—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Gallup, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

Aug. 28-30—VIRGINIA STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Lexington, Ky. Secretary, E. K. Landis, Pulaski, Va.

Sept. 3-5—KENTUCKY STATE FIREMEN'S ASSOCIATION. 1st Annual Convention, Ashland, Ky. Secretary, Captain S. G. Render, 303 Speed Bldg., Louisville, Ky.

Sept. 9-11—ARKANSAS STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Camden, Ark. Secretary-Treasurer, H. D. Compton, Central Fire Station, Little Rock, Ark.

Sept. 10-12—ILLINOIS FIREMEN'S ASSOCIATION. 42nd Annual Convention, Joliet, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 17-18—IOWA STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Red Oak, Ia. Secretary, E. E. Parsons, Marion, Ia.

Sept. 18-19—MISSOURI ASSOCIATION OF FIRE FIGHTERS (Consolidated with former Missouri State Association of Fire Chiefs). Annual Convention, Jefferson City, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 20-21—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Atlantic City, N. J. (Tentative date, to be definitely set later by Executive Committee). Secretary, William Exall, Room 602, Chamber of Commerce Bldg., Newark, N. J.

Oct. 1-3—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 50th Annual Convention, Hotel Roosevelt, Pittsburgh, Pa. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

Oct. 22-25—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 57th Annual Convention, Hotel Tutweiler, Birmingham, Ala. Exhibits, City Auditorium. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1113 Merchants Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Selden R. Allen, Brookline, Mass.

Is Salvage Work Justified?

(*Continued from page* 54)

leaving the property uncovered and at the mercy of the elements and have it ruined by rain. We carry four squares of roofing paper on our truck to use for a temporary roof covering, but if the sheathing is burned away and the opening of the roof larger than this area, we cover the roof with the tarpulins. It is essential that the covers be cleaned and thoroughly dried before they are returned to service, for if not, they will rapidly deteriorate, and if not cleaned they will injure delicate fabrics that you are trying to protect from damage. We prefer, and use, the all-cotton waterproofed covers. These covers are much lighter in weight, and with a small manual force they can be handled more rapidly, when speed is so essential.

In conclusion, I want to say that I do not believe there is any duty performed by the fire department that the general public appreciates more than salvage. Citizens are quick to recognize your effort to conserve their property, and the appreciation gains for your department their cooperation and support.

A paper read before the annual convention of the International Association of Fire Chiefs, at Philadelphia.

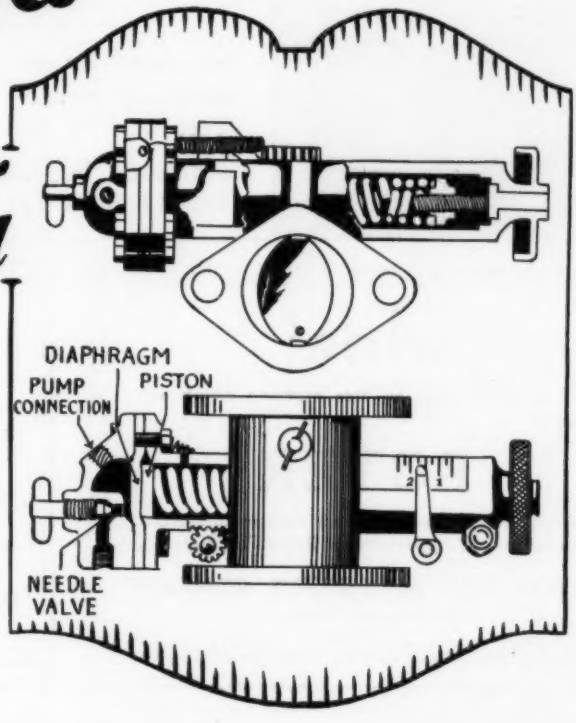
Telephone Company Aids Forest Conservation

The Pacific Telephone and Telegraph Company have prepared and have distributed 7,500 striking color posters on the Pacific Coast, urging the protection of forests against fire. The telephone company worked with the California Development Association in distributing the posters in California.

CHARLES W. GEIGER.

Imitated ~~~~~

but never Equalled



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Many years ago, Seagrave engineers perfected the Seagrave Automatic Pressure Regulator. This regulator automatically slows the engine down when nozzles are shut off, therefore maintaining a steady pressure. It is possible to shut off two or more nozzles, together or seperately, without increasing the pressure in the remaining line or lines. Every Seagrave Centrifugal Pumping Engine is equipped with an Automatic Pressure Regulator.

Now comes a truck manufacturer who produces Fire Apparatus as a sideline and announces the invention of an automatic pressure regulator as a basically new idea.

The Seagrave Corporation feels highly honored by this imitation. As always, Seagrave is first with worth-while innovations in the fire-fighting field. After several years, these innovations are found invariably on other manufacturers' equipment.

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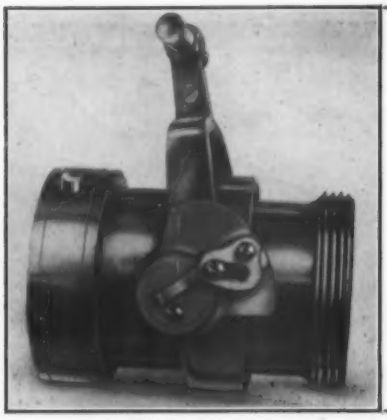

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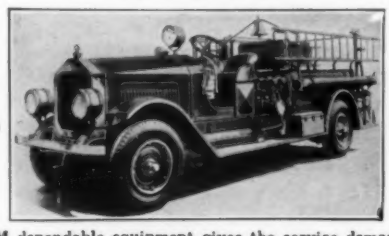

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FALSE ALARMS

SUCCESS AT LAST

It required political pull to become a member of the Cedartown department. One politician tried to get a friend of his in, and he called on a ward leader.

Some time later the ward leader asked the politician, "How about that friend of your's who wanted to be a fireman? What's he doing now?"

"Nothing. He got the job."

NEEDED A CHANGE

Life in the fire department became a very drab affair. No fires of any consequence had come in for the past fifteen days. Tony needed excitement. By telling a fantastic story, he was given time off, and away went Tony for a splurge of whoopee. But luck was against him.

Scarcely one hundred miles from his native town, he was party of the first part in a street brawl, and he landed in jail. The chief was surprised to receive a telegram from his wandering fireman that read:

"See if my friends in department will chip in enough to get me out on bail. Now in jail. Not a bit satisfied here."

The water department at Smithtown has installed 159 new fire plugs this year, tightening up the traffic congestion.

ANOTHER FIRE HAZARD

The following is taken from "The Lantern" of the *New York Herald*:

"The talk of the town has it that the fire hazard in our speakeasies, because of inadequate inspection by the authorities, is extreme. There is also the fact that most of the patrons, after the internal cautery they undergo in drinking speakeasy liquor, wouldn't notice any ordinary burning sensation."

UP TO HER

Some women are just crazy enough to do things contrary to orders. For example when one traffic cop held up his hands for pedestrians because of oncoming fire apparatus, some female decided that no mere man would stop her. But she did stop. The mud guard cut a deep gash in her anatomy.

She was rushed for first aid treatment. As the doctor bandaged the wound, she inquired timidly, "Will the scar show, doctor?"

"That's entirely up to you, madam."

AN EVEN EXCHANGE

Unless you have had experience with small town fire departments, you can not appreciate the rivalry that exists between the members of the various companies—a friendly sort of rivalry. When one company has a house party, the others try to squash it in some way.

So when the confectioners delivered ice cream for the Young America company, two men were stationed to guard the cans on the back porch until the refreshment committee was ready. At a previous party, members of another company had stolen the refreshments.

Therefore the two men on guard were surprised to see an old Ford truck drive up to the back of the Young America station.

"What kind of ice cream did you order?"

One of the guards looked at the other and then answered, "Chocolate."

The driver smiled.

"I'm sorry. We sent you cherry by mistake. Help me load the cans on the truck, and I'll be right back with the chocolate."

The next morning empty ice cream cans were found with the Ford truck at the rear of the Perseverance Company.

Sign in a store: Ladies Ready-to-Wear Clothing. Well, it's about time they did.

MAYBE IT MEANT THE SAME

Although a shy country youth, he was lucky enough to have the honor of escorting the prettiest of the summer visitors to the semi-annual fire department dance. Who wouldn't be envious of the fellow. After several dances she disappeared. When she did return, the girl said:

"I hope that you'll pardon my negligence."

He replied rather awkwardly, "Don't mention it. I thought it was your petticoat."

NOT LITERALLY

Fire chiefs and those concerned with operating the fire department's cars should not take the following advertisement too seriously:

Ride with Ethyl and get the benefits of high compression.

TO THE POINT

They celebrated New Years properly. After the cashier had checked up on the income from the volunteer fire department's annual ball, the boys went out to celebrate. But only a few survived the expedition. That is why a policeman only found one in the gutter.

"Where am I?" asked the man when he recognized the blue uniform of the policeman.

"You are at the corner of Seventh avenue and Chestnut street."

"Aw, don't be so exact. What city is this?"

WHO WAS LARGER?

The convention committee in the western village was very busy, indeed. Among other things, they had to see that all the fire chiefs and the guests found accommodations. One chief came down with his wife and her sister. A member of the committee called up a rooming house to say that the ladies were coming.

Imagine the surprise of the landlady when she saw two rather corpulent women ringing her doorbell. She didn't know how to approach them. Smilingly she asked:

"Which one of you is the lodger?"

And at that, both of the callers strode away in a huff.

Although the Post Office claims to have broken the record for Christmas mail, many a man can testify that that wasn't the only thing broken.

HIS HONOR AT STAKE

In one of the outlying suburban stations, the captain in charge was a stickler for cleanliness. His station was immaculate. An officer from a nearby community was assigned to that station to get some ideas in fire department administration.

After the first night in the station, the captain inquired of his guest:

"How did you sleep?"

"I didn't rest much. I was troubled by insomnia."

"Sir," replied the captain indignantly, "I've never heard of such a complaint, and I've had some very important men stationed here. Moreover, I don't believe you, sir. And I'm willing to buy you a new hat if you find a single one in any of the beds."

We could tell you some more jokes, but what's the use. You would only laugh at them.

—Drawing by "Art" Espey

Officer: That's What You Call Leading Off With Three-Inch Hose

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

HOW MUCH FIRE APPARATUS DOES THE COMMUNITY NEED?

Impossible to State Definitely Number of Pieces Required—General Requirements Based on Population—Many Departments Under Needs

HOW much fire apparatus does the town need? Jones who moved over from the next town argued that three units were required. He based his assumption on what was done in the town from which he came. The chief admitted that he was puzzled but he believed that since a number of new houses were erected, another car was needed. The town council didn't know either. They worked on the theory that a penny saved was equivalent to more votes for their party at the next election.

Who knows?

It is impossible to state in a general way, just how much fire department equipment and apparatus is needed in a town. One town may be divided into two or three sections by railroad tracks, and in that case more apparatus will be needed. Another community may have two large industrial plants, and of course that is a cause for special fire protection. Another place may not have a water works system and that is reason for an increased number of hose wagons. Therefore, knowing full well that no two towns are alike, the following information should only be taken as suggestions and not as orthodox facts. The data is of value because it presents a general survey.

It should be remembered that small towns purchase light apparatus while small cities buy larger and heavier units.

For a community of from five hundred to one thousand population, one piece of motor apparatus, preferably a pumper, is required. This holds true, regardless of whether or not the town is equipped with fire hydrants. It is always possible to place cisterns in the business sections as an alternative.

For one to three thousand population, two pieces of apparatus are required, at least one of which shall be equipped with a pump unless the hydrant pressure is satisfactory and the mains are of sufficient size.

For three to five thousand population, one pumper is needed equipped with a hose body, and two other pieces of apparatus, such as one chemical and one chemical and hose, or one chemical and one hose wagon with booster pump.

For from five to ten thousand population, the place should buy two pumpers, one of which is accompanied by a tender; or one pumper accompanied by tender and two other pieces of apparatus such as a straight chemical machine, a chemical and hose wagon or a hose wagon with booster pump; also one ladder truck.

Some fire departments have more than this stated amount of apparatus, and of course that should add to the credit of the community. Where a volunteer department is well organized, and there are several companies, and where each company provides itself with its own apparatus, there is no trouble to live up to the schedule mentioned. In studying the information given, it should be remembered that the number of pieces required is the minimum and not the maximum number of pieces.

Sometimes several communities organize of work up some kind of cooperative organization. In that case, it is often found that the hose threads of one department do not correspond with the thread specifications of the fire hydrant of another. Where this is true, there is a solution to the difficulty. Adapters can be provided, or in an emergency a barrel could be placed near a hydrant. The hydrant will then discharge into the barrel and the pumper will take suction from the barrel.

Another scheme is to dig away some of the earth in front of the hydrant so as to form a little pool. Then lay a tarpaulin to cover the inside of the hole. Water from the hydrant fills the hole, and suction is taken from this little reservoir for the pumper. The object of the tarpaulin is to prevent sand and other abrasive material from being drawn into the pumper.

One thing should be remembered. Unless the suction end of the line is eighteen inches or more below the surface of the water, the pumper will draw air. As the plans mentioned are merely emergency measures that are more concerned with obtaining water than the efficiency of the pumper, it is very likely that air will be drawn into the pumper. That means that the stream will be broken up. At a fire, one is more concerned with getting water to the fire, than with anything else. And the plan suggested is worthy of consideration.

History of Fire Fighting

(*Continued from page 64*)

was at that time very unpopular; and the firemen found fault with the working of the engine, claiming that she was too heavy and that the boiler would not furnish enough steam. These probably were faults which could easily have been remedied and improvements made in building another. But the insurance companies became satisfied with the hostility on the part of the firemen, their losses would be increased rather than diminished; and the steamer was withdrawn and sold to a packing box manufacturer who used it as a stationery engine.

Hodge's engine which looked like a locomotive, was 13½ feet long, and weighed between 7 and 8 tons. It is illustrated in Fig. 12.

The engine was self propelling. The rear wheels were made of wrought iron and were used as fly wheel when working at a fire. As soon as the engine was located where it was to get the supply of water, the rear end of the engine would be jacked up and would thereupon be ready to operate.

(*To be continued*)

Madison, Wis., Starts Work on Fire Station—Construction has started on a new fire station for Madison, Wis.

Battle Creek Has New Assistant Chiefs—Two captains in Battle Creek, Mich., were promoted to assistant chiefs, and the purchase of apparatus costing $13,000 was authorized.

Louisiana Wants Ban on Fireworks—A recommendation was made that the fire marshal of Louisiana be given an ordinance similar to the one in force in Wisconsin so that the sale of fireworks and similar explosives be prohibited.

Buffalo Type 50—500 Gallon Pumper

Buffalo Pumpers are the most highly developed in design, construction and engineering standards and are intended for municipality, community and township fire protection.

Buffalo Pumpers are also noted for their efficiency and their great abundance of reserve power. They are pumpers with stamina and speed. All the above have to be credited for bringing great pumping merits for Buffalo Pumpers.

Buffalo Pumpers are given great and careful attention when under construction at our factory by engineers, both mechanical and designing, who have been in contact with the construction of pumpers for years.

Buffalo Pumpers range from 300 gallon capacity to 1000 gallon capacity.

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Write for detailed specifications

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Manufacturers of all types of Fire Apparatus

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Headlights — Searchlights
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for all purposes.

We can supply parts for Gray & Davis lamps also.

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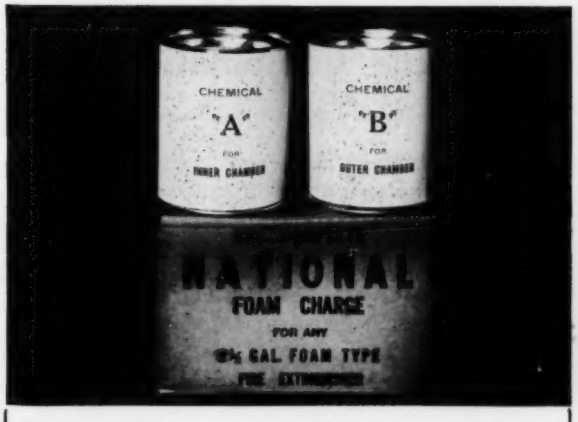

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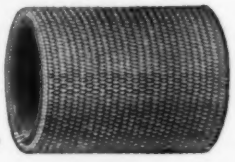

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Every telephone is a fire alarm station, permitting operator to sound alarm instantly, giving your fire department a chance to get the jump on the fire.

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Invincible and Callahan Nozzles

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Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

You will find that it pays.

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The New Eastman Deluge Gun

The New Eastman Deluge Gun is a Portable Turret Pipe that can be used on the truck or ground, as may be desired. The stream can be operated in any direction by one man.

Samuel Eastman Co.
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THE BI-LATERAL FIRE HOSE CO.
Canal St. Station
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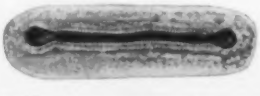

If a hose salesman can convince you by any argument that his three-year guarantee will result in just as good an adjustment, should one be necessary, as a guarantee for six years, from a reliable company, certainly if you have a goat, he's got it.

BI-LATERAL FIRE HOSE is guaranteed six (6) years.

Your Catalog Page

Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Caps, Firemen's.
23 Chains, Non-Skid Fire Apparatus.
24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Cleaning Compounds.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment, Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers for Chimney Fires.
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
41 Fire Exit Devices, Door Opening.
42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
45 First Aid Equipment.
46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.

This Way, Please!

Whenever you are in the market for new equipment you naturally want to get complete information from all reliable manufacturers before you place the orders for your department.

This page is a feature of every issue to make it convenient for you to get all this information without cost to you and witout placing you under any obligation whatever to buy from any particular manufacturer.

You only have to run down the list of equipment and mail in the coupon below with your name and address and the numbers that indicate what you are interested in and we will then have the leading manufacturers of this equipment send you complete information direct—so why not let us help you get what you want? We are glad to be of service. So this way, please!

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet.

55 Hose Clamps.
56 Hose, Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
68 Nets, Life.
69 Nozzles, Pipes & Misc. Brass Goods.
70 Packings, Pumps.
71 Pads, Pole Hole.
72 Paints, Fire Resisting.
73 Priming Ether, Motor.
74 Pumping Cars, Standard.
75 Pumping Cars, Foam.
76 Pumps, Fire Apparatus.
77 Pumps, Fire Service, Stationary.
78 Pumps, Portable, for Fire Protection.
79 Record Books, Fire.
80 Relief Valves.
81 Reviving Apparatus, Oxygen.
82 Rubber Clothing.
83 Searchlights.
84 Shingles, Fire Retardant.
85 Shirts, Firemen's Special.
86 Sirens, Apparatus & Chiefs' Cars.
87 Sliding Poles.
88 Soda & Acid Chemicals.
89 Spark Plugs, Fire Apparatus & Motorcycles.
90 Squad and other Auxiliary Cars.
91 Sprinkler Head Shut-Offs.
92 Sprinkler Supervisory Service.
93 Sprinkler Systems, Automatic, Foam.
94 Sprinkler Systems, Automatic, Water.
95 Starters, Fire Apparatus, Automatic, Air.
96 Steam Fire Engines.
97 Tarpaulins & Fire Blankets.
98 Tetrachloride Chemicals.
99 Thawing Equipment, Hydrant.
100 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
101 Tractors.
102 Traffic Clearing Systems.
103 Triple Combination Pumping Cars.
104 Uniforms.
105 Water Towers.
106 Wheels, Cushion.
107 Whistles, Fire Alarm, Compressed Air.
108 Whistles, Fire Alarm, Steam.
109 Whistles, Fire Apparatus.
110 Wrecking Trucks.

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Nos.....

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as you know, is a vital necessity for adequate protection of life and property from fire.

Accordingly, your delicate Fire Alarm instruments must of necessity be safeguarded from lightning, static, sneak currents and kindred electrical disturbances, and that security is afforded by installing

VAC-M ARRESTERS

THE NATIONAL ELECTRIC SPECIALTY COMPANY
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Fire Alarm Signals
Water Meters
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COREY Hydrants as manufactured by "Rensselaer" are being used to fight fire in every State of the Union. Made of the very best material and workmanship.

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1 The form of the patented Rotor Tooth.
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The design of Hale pumps has been perfected through fifteen years of active experience, and has resulted in a rugged, highly efficient product.

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What we
Have to
Say—

then—

Listen to
What others
Have to
Say—

then—

Do Your Own Thinking

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Here are the things you ought to know—

What is the exact quality of the materials used; and
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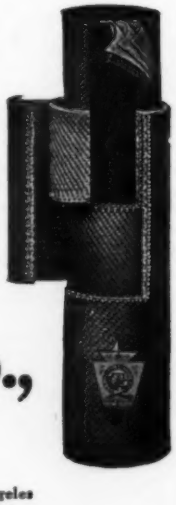

Stands Every Test

Fabric Fire Hose Co.,

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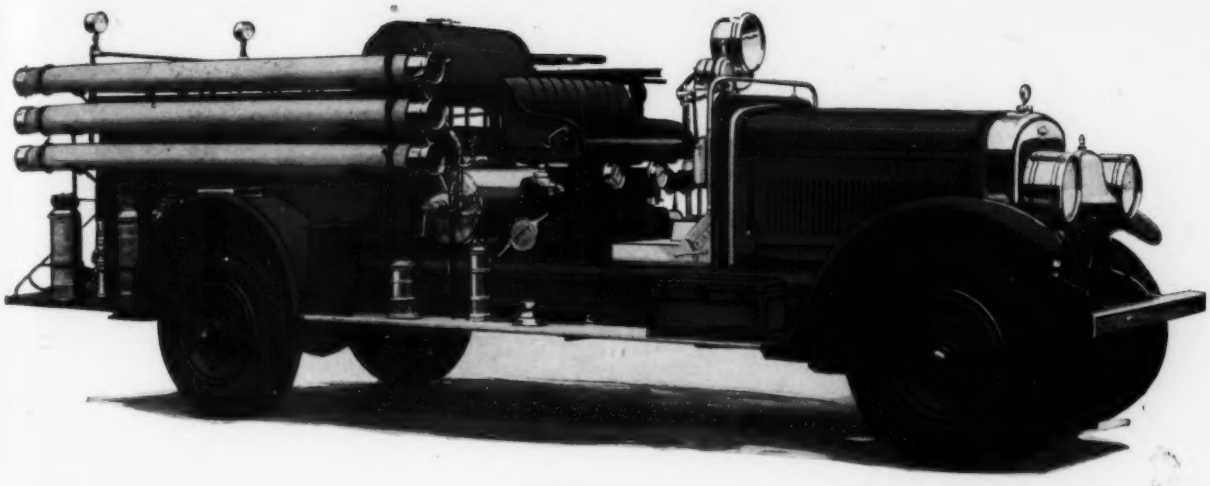
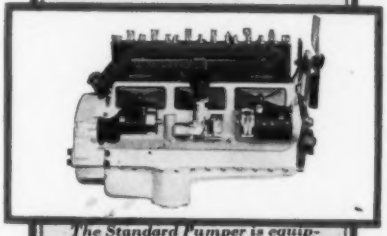
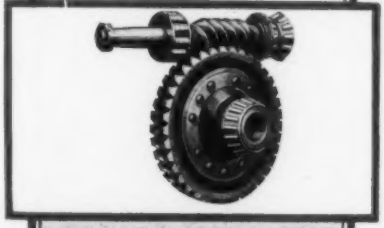
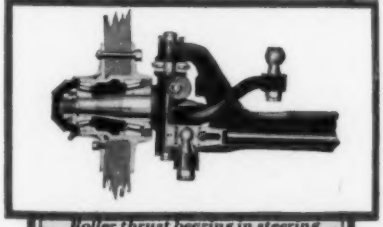




The Standard Pumper is equipped with this sturdy 105 H.P. 6 cylinder motor.



Sturdy Timken worm gear drive mounted in roller bearings.



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